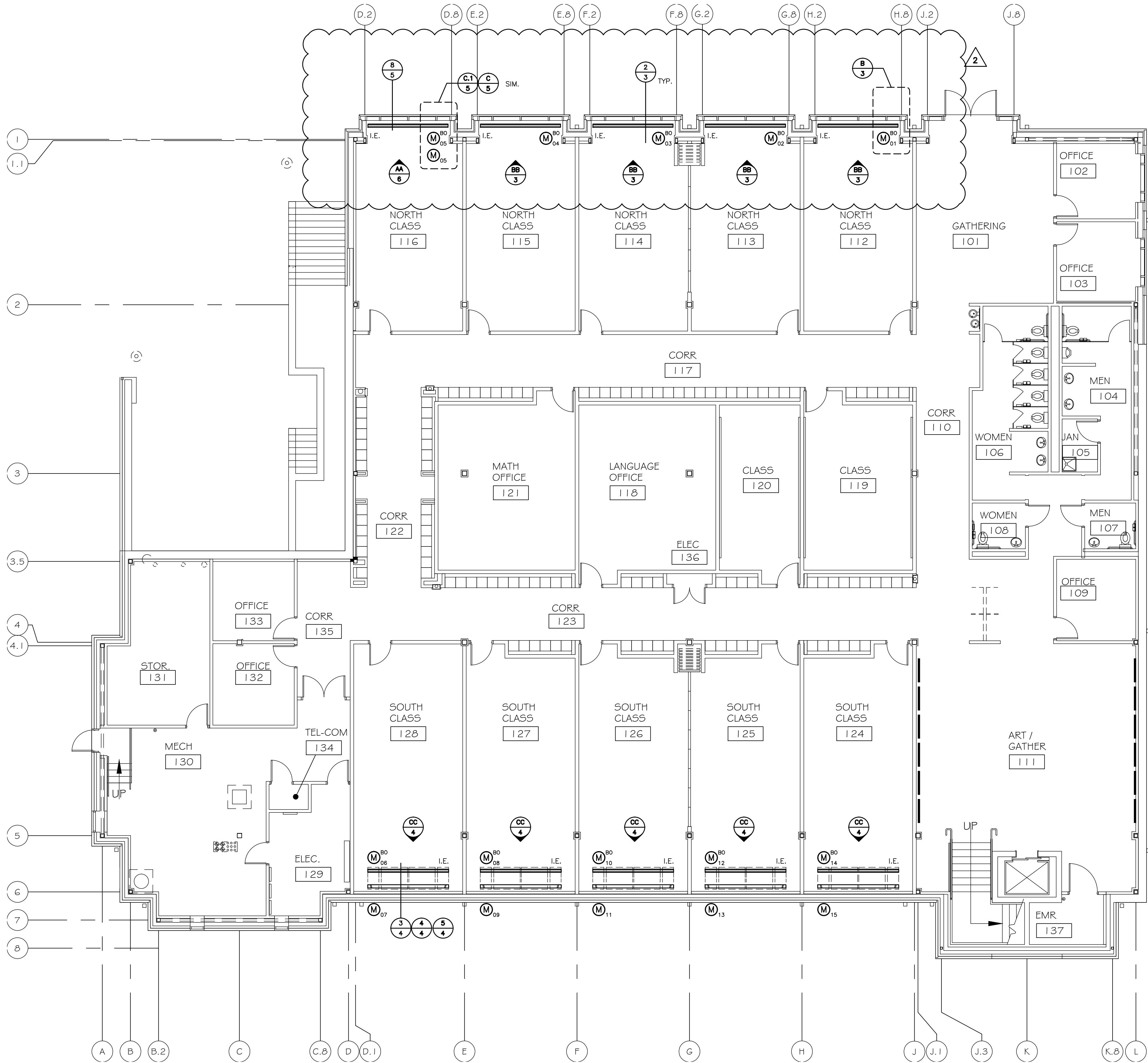


PRINTS				
REV	SEP	FOR	TO	DATE
4	1	APPL	DLR	11/29
4	1	APPL	DLR	12/20
4	1	APPL	DLR	01/18



## SHADE LOCATION PLAN @ 1st FLOOR

SCALE: 1/8"=1'-0"

KEY	
C.S.	- CENTER SUPPORT
D.E.	- DRIVE END
I.E.	- IDLE END
O.H.	- OPENING HEIGHT
O.O.W.	- OVERALL OPENING WIDTH
O.W.	- OPENING WIDTH
R.U.D.	- ROLL UP DIAMETER
S.C.	- SHADECLOTH
S.O.H.	- SHADE OPENING HEIGHT
S.O.W.	- SHADE OPENING WIDTH
V.I.F.	- VERIFY IN FIELD
AA 3	ELEVATION NUMBER
BB 3	SHEET NUMBER
CC 3	SHADECLOTH
DD 3	FLOOR NUMBER (OPTIONAL)
EE 3	MOTOR NUMBER
1223	ROOM NUMBER
—	MOTORIZED SHADE

### NOTES:

- ALL DIMENSIONS AND JOB CONDITIONS TO BE FIELD VERIFIED BY DEALER BEFORE FABRICATION.
- ALL MATERIALS, COLORS, FINISHES, ETC. ARE TO BE MechoShade STANDARDS UNLESS OTHERWISE NOTED.
- MechoShade Systems, Inc. RESERVES THE RIGHT TO MAKE DESIGN MODIFICATIONS AND TECHNICAL CHANGES WITHOUT PRIOR NOTICE.
- THERMOVEIL SHADECLOTH TO BE No. 6000 SERIES - 96" WIDTH - RAILROADED WIDTH FOR HEIGHT WITH SEAM/BATTEN AS SHOWN ON ABOVE ELEVATIONS - STANDARD MechoShade COLOR AS APPROVED BY ARCHITECT.
- BLACKOUT SHADECLOTH TO BE No. 0700 SERIES - 72" WIDTH - RAILROADED WIDTH FOR HEIGHT WITH SEAM/BATTEN AS SHOWN ON ABOVE ELEVATION - STANDARD MechoShade COLOR AS APPROVED BY ARCHITECT.

### SHOP DRAWING DIMENSIONS

DETAILS: HARDWARE SIZES ± 1/32" (0.79mm)  
ROLL DIAMETER SIZES ± 1/8" (3.18mm)  
EDGE CLEARANCE ± 3/16" (4.76mm)

SHADE BANDS: RollerShade width and height dimensions (W x HT) are approximate, subject to final field dimensions to be scheduled by the Dealer/Contractor and provided to MechoShade Systems for fabrication in accordance with Contract Documents. Shop drawings are for typical details and shade locations only. Final sizes are not included. All blocking and supports are shown for reference only. Blocking design is not included in this Shop Drawing. Blocking is Not In Contract.

FILE NAME: I:\Shop DWGs Current\M-3226ESBF - The Rivers School\Rev.2\1st FLOOR PLAN.dwg

4			
3			
12/18/11	PER ARCHITECT'S REVISION	D.M.Z	
12/20/10	NO CHANGE	D.M.	
NO.	DATE	DESCRIPTION	BY
REVISIONS			

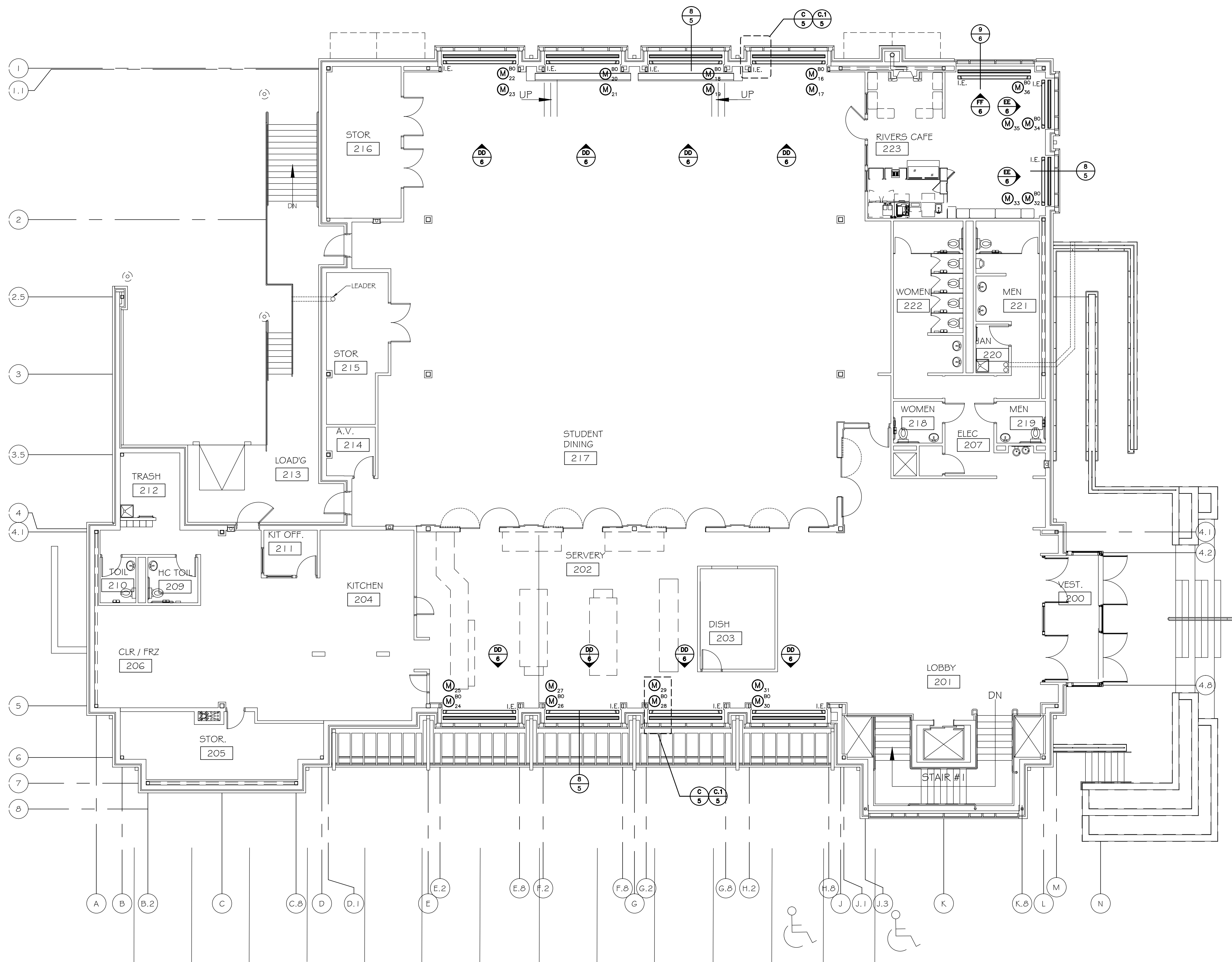
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42-03 35th Street  
Long Island City NY 11101  
T: +1 (718) 729-2020  
F: +1 (718) 729-2941  
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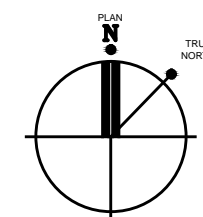
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TITLE	PROPOSED DETAILS "ELECTRO" SHADES	JOB NO.	504595	PROPOSAL NO.	175426-0-3
ARCHITECT	DARIO DESIGNS, INC	DATE	11/29/10	SCALE	AS NOTED
DEVELOPER	TECH CONSTRUCTION SPECIALTIES, INC	DWN. BY	J.L.R.	CKD. BY	G.B.
SHEET NO.		1 OF 10			

PRINTS				
IN	SEP	FOR	TO	DATE
4	1	APPL	DLR	NONE
4	1	APPL	DLR	12/20
4	1	APPL	DLR	01/18



### SHADE LOCATION PLAN @ 2nd FLOOR

SCALE: 1/8"=1'-0"



NOTES:  
SEE SHEET #1

### SHOP DRAWING DIMENSIONS

DETAILS:	HARDWARE SIZES	± 1/32" (0.79mm)
	ROLL DIAMETER SIZES	± 1/8" (3.18mm)
SHADE BANDS:	EDGE CLEARANCE	± 3/16" (4.76mm)

SHADE BANDS: EDGE CLEARANCE (w x HT) (4.76mm)  
RollerShade width and height dimensions (± 3 mm) are approximate, subject to final field dimensions to be scheduled by the Dealer/Contractor and provided to MechcoShade Systems for fabrication in accordance with Contract Documents. Shop drawings are for typical details and shade locations only. Final sizes are not included.  
All blocking and supports are shown for reference only. Blocking design is not included in this Shop Drawing.  
Blocking is Not In Contract.

FILE NAME: \\shop Dwg Current\\NW-3226583P - The Rivers School Rev/2nd Floor PLAN - PG02

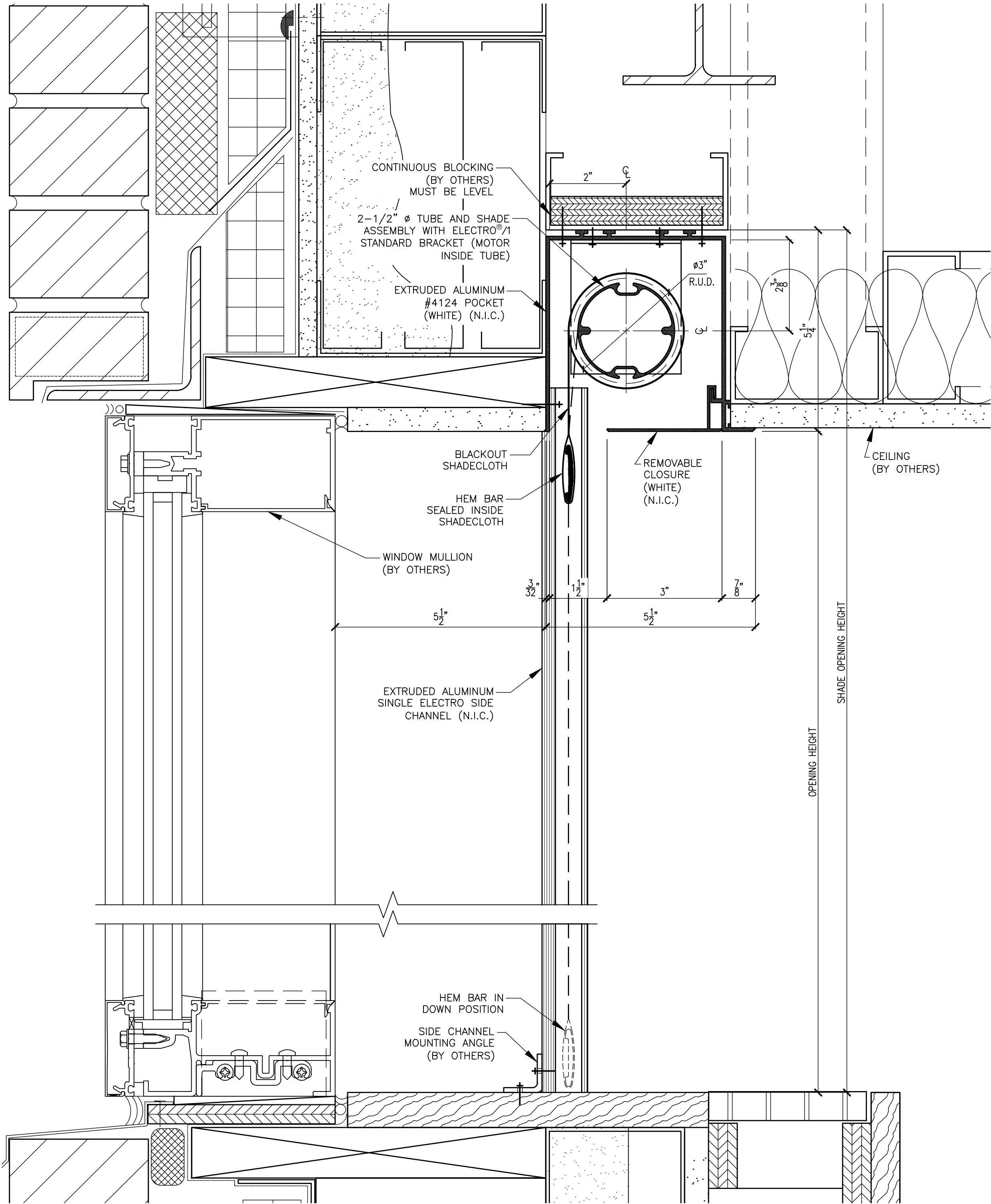
4			
3			
2	01/18/11	NO CHANGE	D.J.
1	12/20/10	PER ARCHITECT'S REVISION	D.J.
NO.	DATE	DESCRIPTION	BY
REVISIONS			

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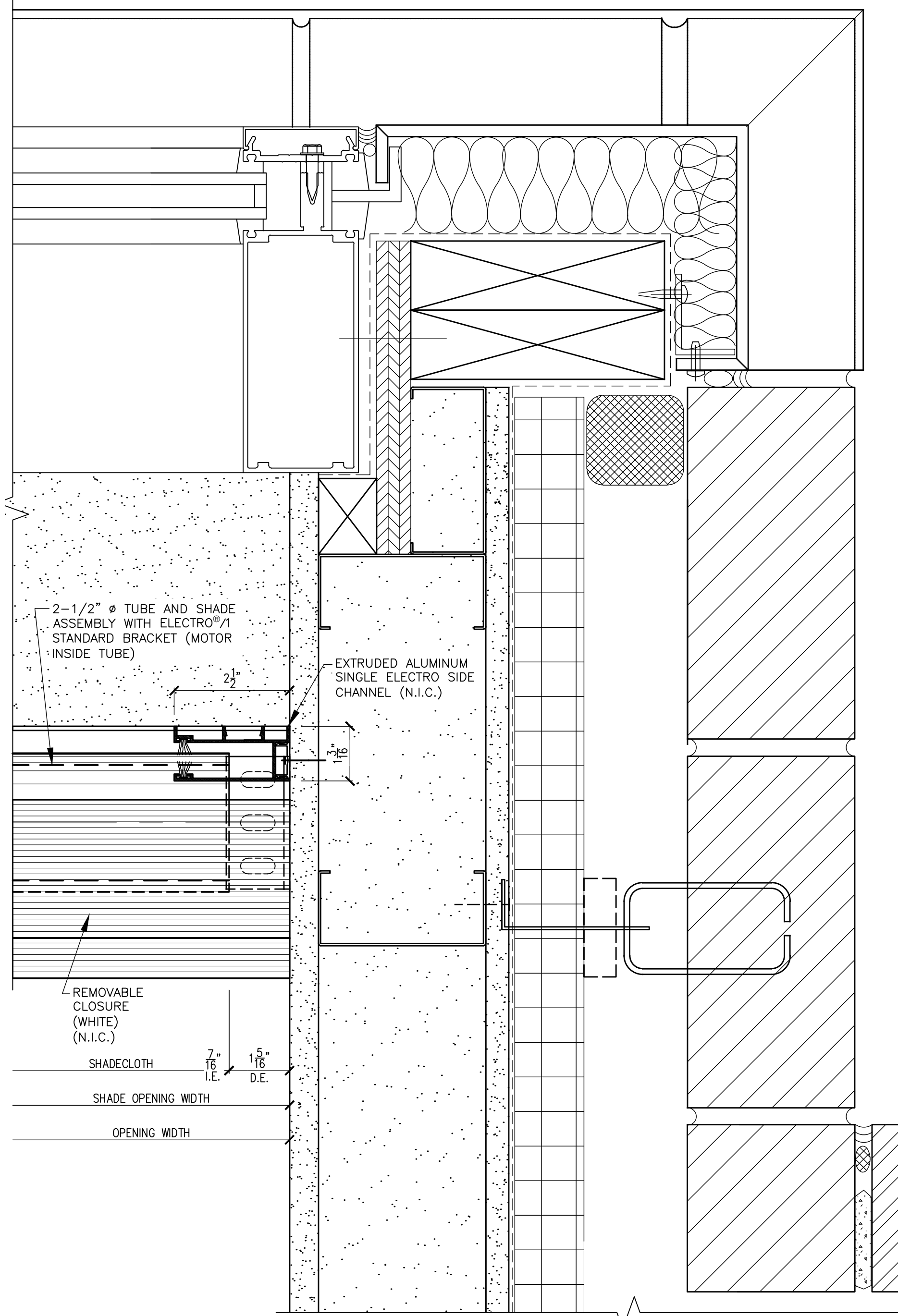
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		JOB NO.	504595		
TITLE	PROPOSED DETAILS "ELECTRO" SHADES	PROPOSAL NO.	175426-0-3		
		DATE	11/29/10	SCALE	AS NOTED
ARCHITECT	DARIO DESIGNS, INC	DWN. BY	J.L.R.	CKD. BY	G.B.
DEVELOPER	VER-TEX CONSTRUCTION SPECIALTIES, INC	SHEET NO.	2	OF	10

PRINTS					
REV	SEP	FOR	TO	DATE	
4	1	APPL	DLR	11/29	
4	1	APPL	DLR	12/20	
4	1	APPL	DLR	01/18	

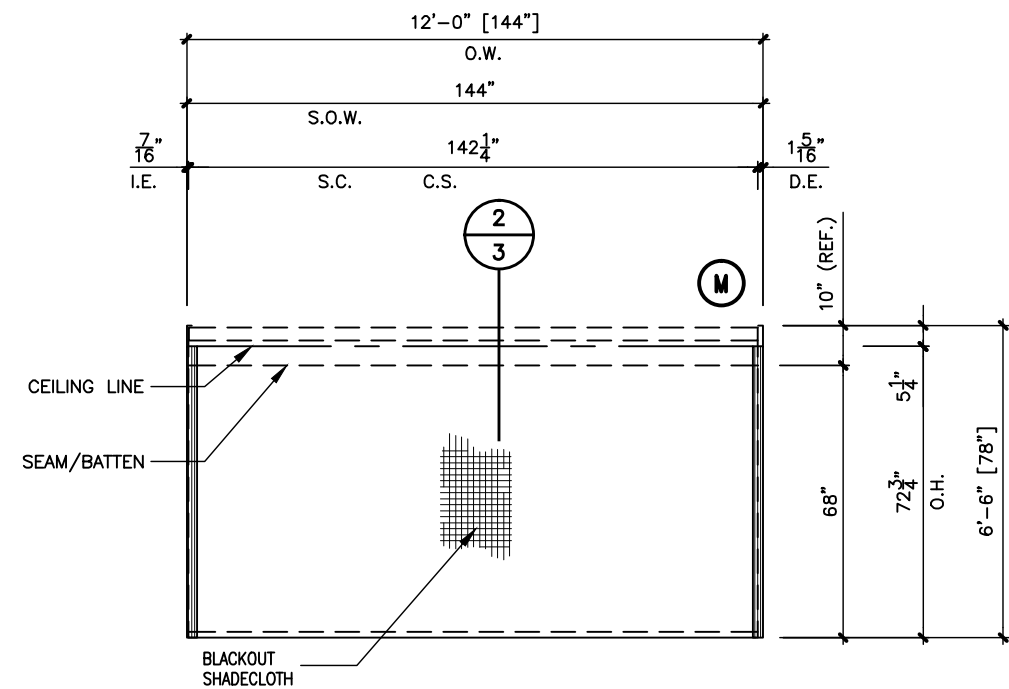
- POCKET INSTALLER NOTE**
- 1 - POCKET MUST BE INSTALLED LEVEL AND PARALLEL TO WINDOW WALL.
  - 2 - POCKET FASTENERS MUST NOT INTERFERE WITH BRACKET LOCATIONS.



**2 TYPICAL SECTION**  
SCALE: 6" = 1'-0" ARCH. REF. 1 & 2/A5.1



**B REFLECTED**  
SCALE: 6" = 1'-0"



**BB INTERIOR ELEVATION**  
SCALE: 1/4" = 1'-0"

NOTES:  
SEE SHEET #1

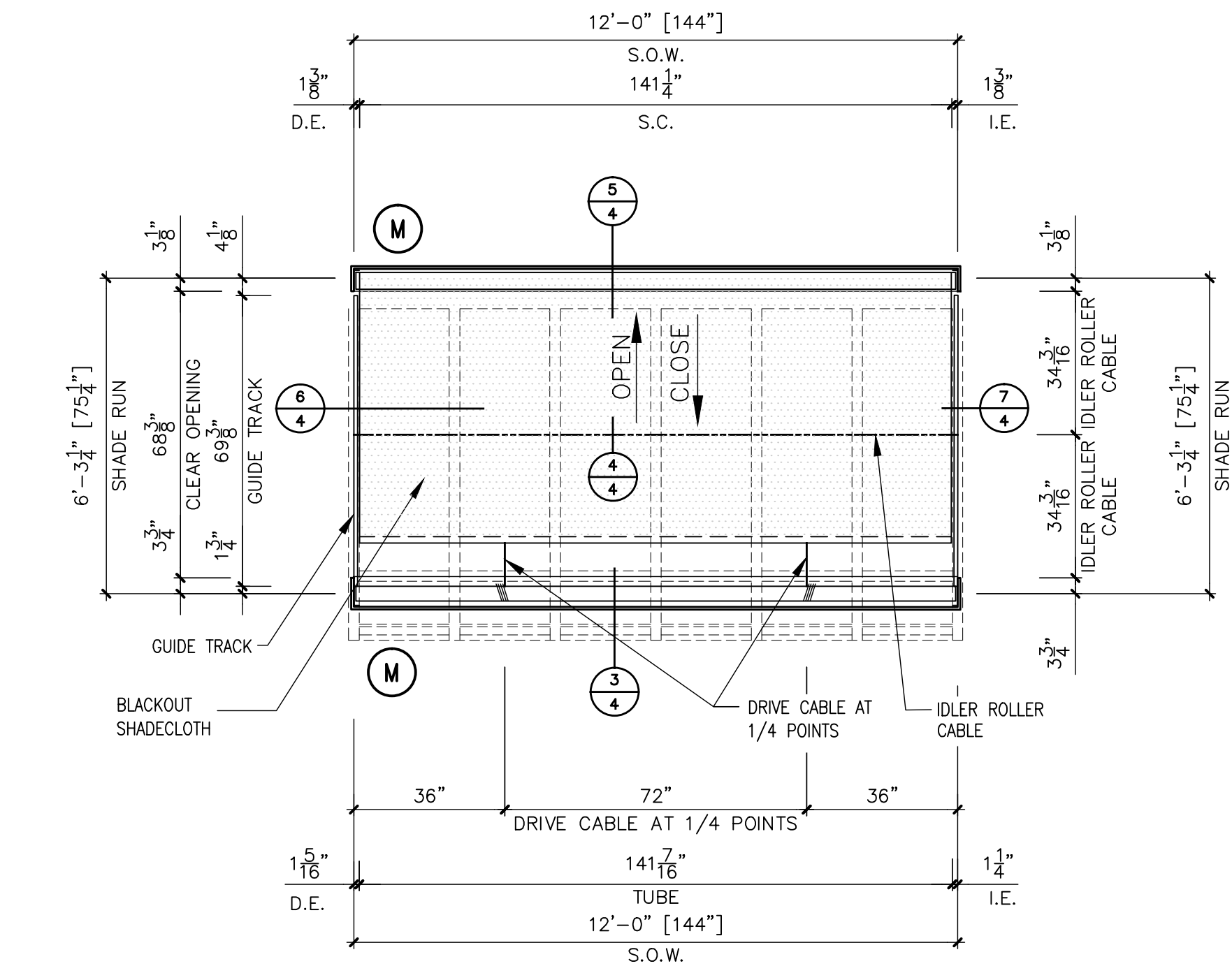
**SHOP DRAWING DIMENSIONS**  
DETAILS: HARDWARE SIZES  $\pm 1/32"$  (0.79mm)  
ROLL DIAMETER SIZES  $\pm 1/8"$  (3.18mm)  
EDGE CLEARANCE  $\pm 3/16"$  (4.76mm)  
SHADE BANDS: RollerShade width and height dimensions (W x HT) are approximate, subject to final field dimensions to be scheduled by the Dealer/Contractor and provided to MechoShade Systems for fabrication in accordance with Contract Documents. Shop drawings are for typical details and shade locations only. Final sizes are not included. All blocking and supports are shown for reference only. Blocking design is not included in this Shop Drawing. Blocking is Not In Contract.  
FILE NAME: I:\Shop DWGs Current\M-3226ESBF - The Rivers School\Rev.2\SECT & REF.dwg

NO.	DATE	DESCRIPTION	BY
4			
3			
2	01/18/11	PER ARCHITECT'S REVISION	A.S.
1	12/20/10	NO CHANGE	D.M.

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Long Island City NY 11101  
T: +1 (718) 729-2020  
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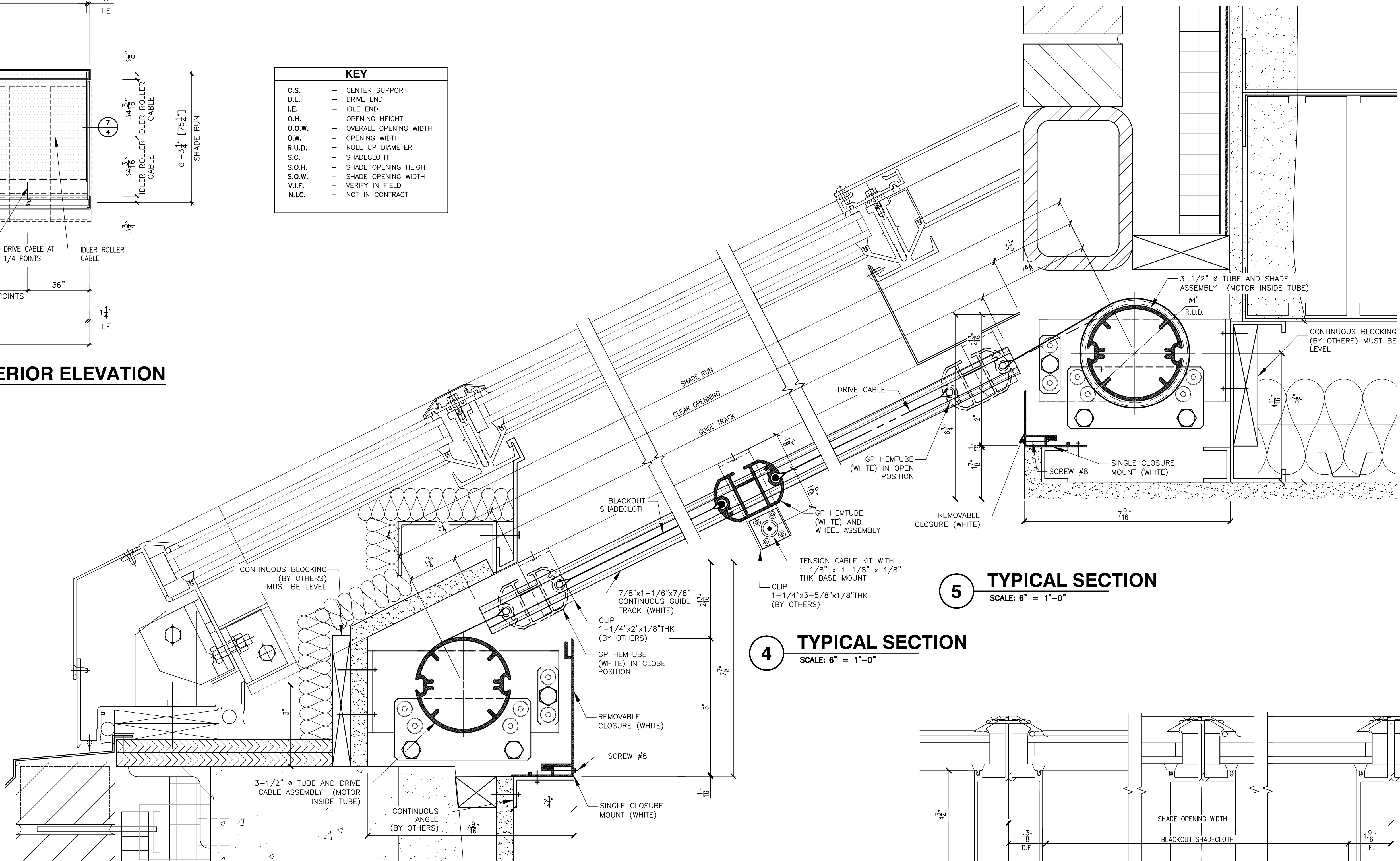
JOB	THE RIVERS SCHOOL NEW CAMPUS CENTER WESTON, MA	DWG NO. M-3226ESBF	REV. $\frac{2}{1}$
TITLE	PROPOSED DETAILS "ELECTRO" SHADES	PROPOSAL NO.	175426-0-3
ARCHITECT	DARIO DESIGNS, INC	DATE	11/29/10
DEVELOPER	TECH CONSTRUCTION SPECIALTIES, INC	SCALE	AS NOTED
		DWN. BY	J.L.R.
		CKD. BY	G.B.
		SHEET NO.	3 OF 10

PRINTS				
RW	REP	FOR	TO	DATE
4	1	APPL	DLR	11/29
4	1	APPL	DLR	12/20
4	1	APPL	DLR	01/16



**SKYLIGHT INTERIOR ELEVATION**  
SCALE: 3/8" = 1'-0"  
REQUIRED: 5 SHADES

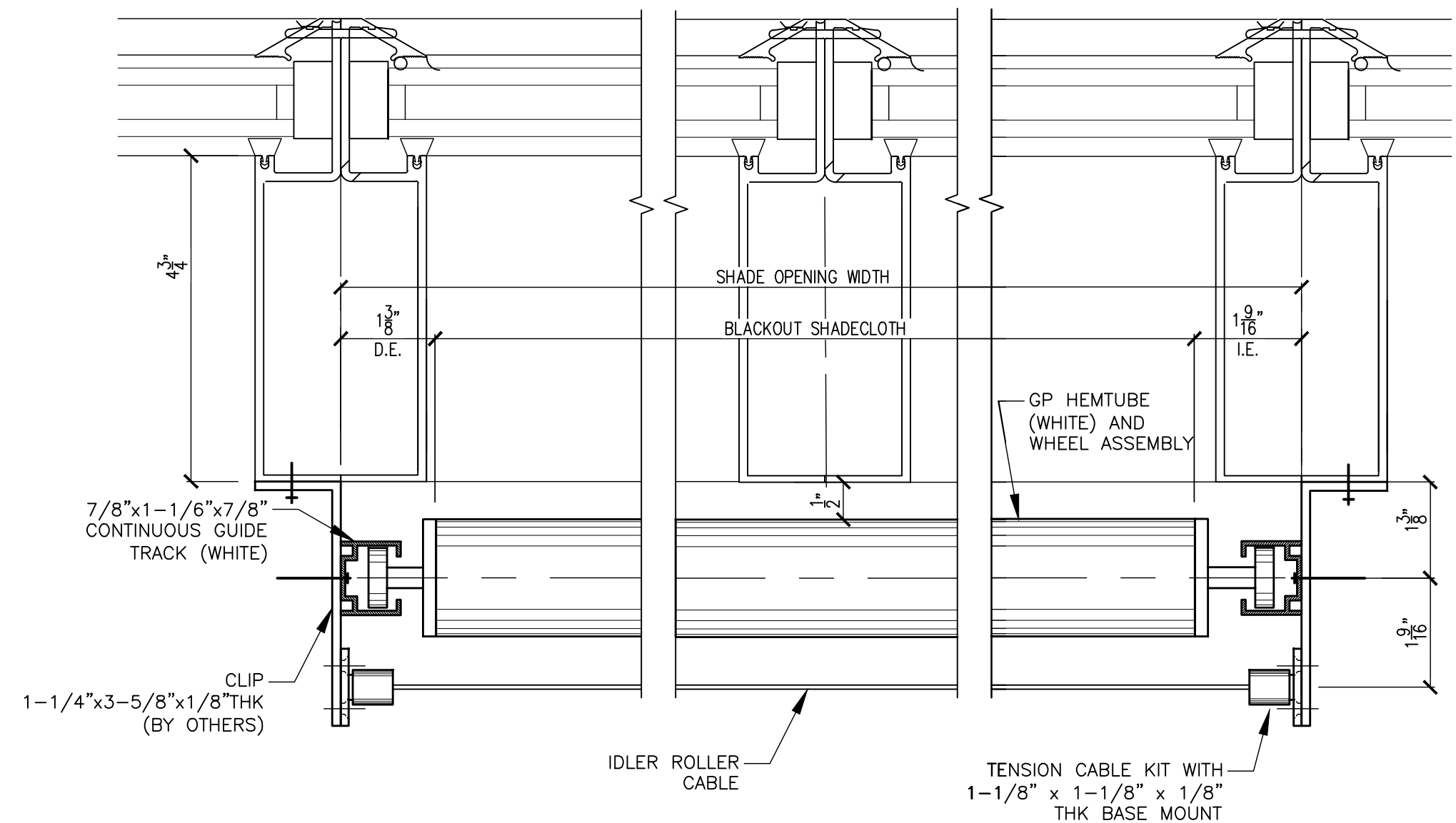
- SKYLIGHT SHADE SYSTEM WILL BE SUBJECT UP TO 400 lbs OF PULLING FORCE. MOUNTING PLATE NEEDS TO BE DESIGNED TO WITHSTAND THIS FORCE. MOUNTING AND SUPPORT DESIGN IS NOT INCLUDED. ALL MOUNTING PLATE SHOWN ON THIS DRAWING IS FOR REFERENCE ONLY. MOUNTING PLATE IS NOT IN CONTRACT.
- MOUNTING PLATE MUST BE SQUARE AND PARALLEL TO THE MOUNTING OPPOSITE. THE DIAGONALS SHALL BE MEASURED WITHIN 1/2" TO ASSURE MOUNTING IS PARALLEL AND SQUARED.
- ALL MOTORS MUST BE ACCESSIBLE FOR INSTALLATION AND MAINTENANCE.
- SYSTEM WEIGHT IS 120 LBS PER SHADE UNIT.



**3 TYPICAL SECTION**  
SCALE: 6" = 1'-0"

**4 TYPICAL SECTION**  
SCALE: 6" = 1'-0"

**5 TYPICAL SECTION**  
SCALE: 6" = 1'-0"



**6 TYPICAL SECTION**  
SCALE: 6" = 1'-0"

**7 TYPICAL SECTION**  
SCALE: 6" = 1'-0"

NOTES:  
SEE SHEET #1

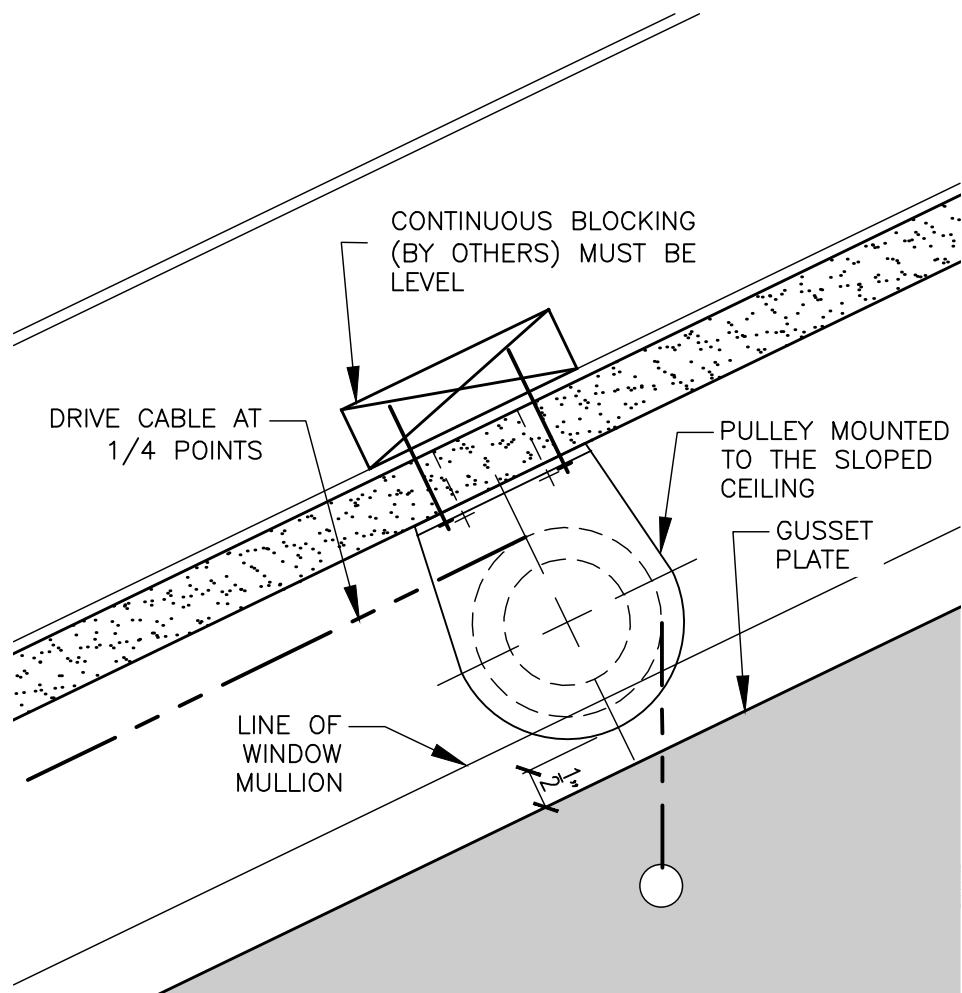
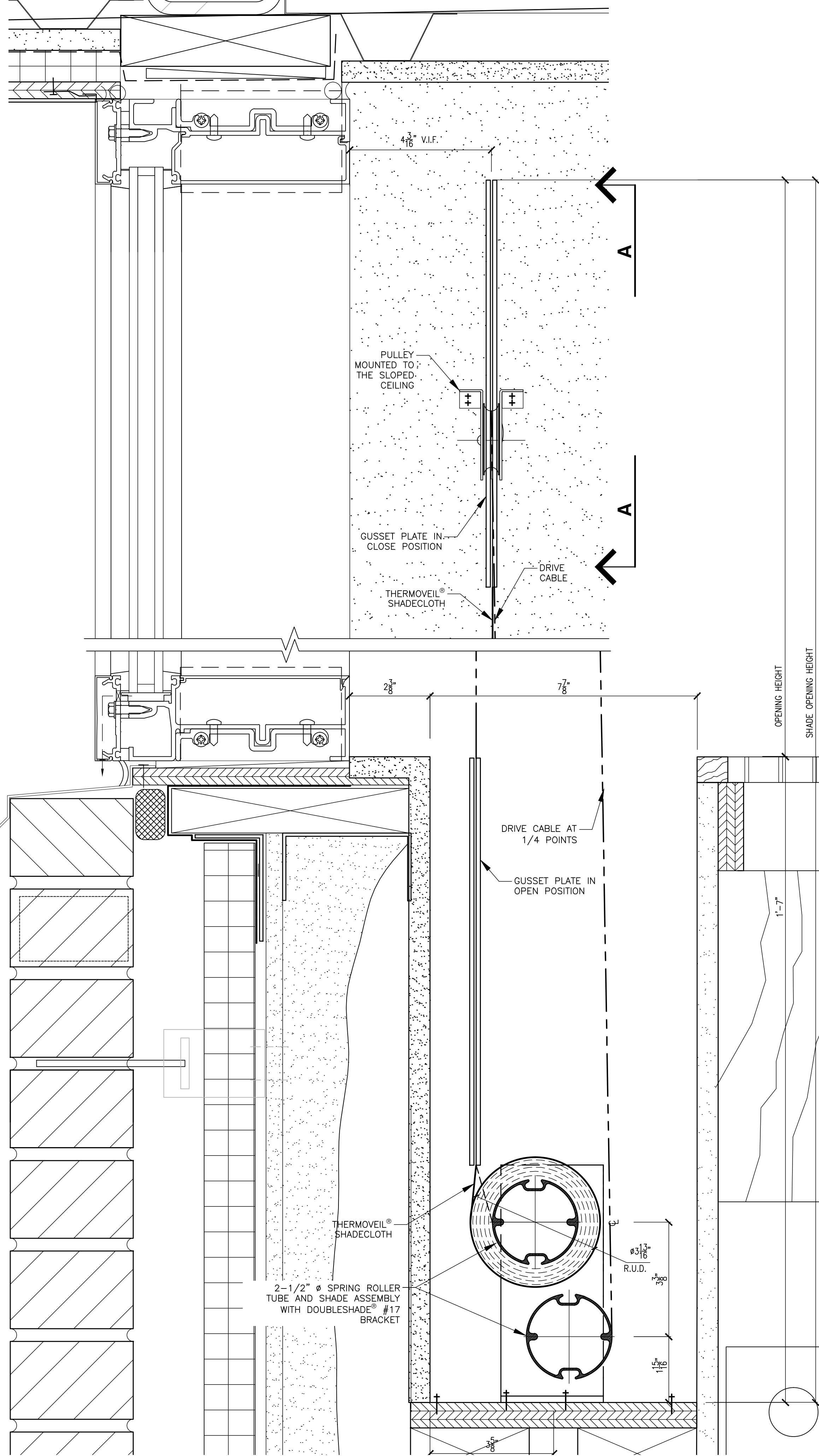
SHOP DRAWING DIMENSIONS			
DETAILS:	HARDWARE SIZES	± 1/32" (0.79mm)	
	ROLL DIAMETER SIZES	± 1/8" (3.18mm)	
	EDGE CLEARANCE	± 3/16" (4.76mm)	
SHADE BANDS:			
RollerShade width and height dimensions (W x HT) are approximate, subject to final field dimensions to be scheduled by the Dealer/Contractor and provided to MechoShade Systems for fabrication in accordance with Contract Documents. Shop drawings are for typical details and shade locations only. Final sizes are not included.			
All blocking and supports are shown for reference only. Blocking design is not included in this Shop Drawing.			
Blocking is Not In Contract.			
FILE NAME: I:\Shop DWGs Current\M-3226ESBF - The Rivers School\Rev.2\SKYLIGHT DETAILS.dwg			

NO.	DATE	DESCRIPTION	BY
4			
3	01/16/11	NO CHANGE	D.M.
2	12/20/10	NO CHANGE	D.M.

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JOB	THE RIVERS SCHOOL NEW CAMPUS CENTER WESTON, MA	DWG NO.	M-3226ESBF	REV.	2
TITLE	PROPOSED DETAILS "ELECTRO" SHADES	JOB NO.	504595		
ARCHITECT	DARIO DESIGNS, INC	PROPOSAL NO.	175426-0-3	DATE	11/29/10
OWNER	TEX CONSTRUCTION SPECIALTIES, INC	SCALE	AS NOTED	DWN. BY	J.L.R.
		OKD. BY	G.B.	SHEET NO.	4 OF 10

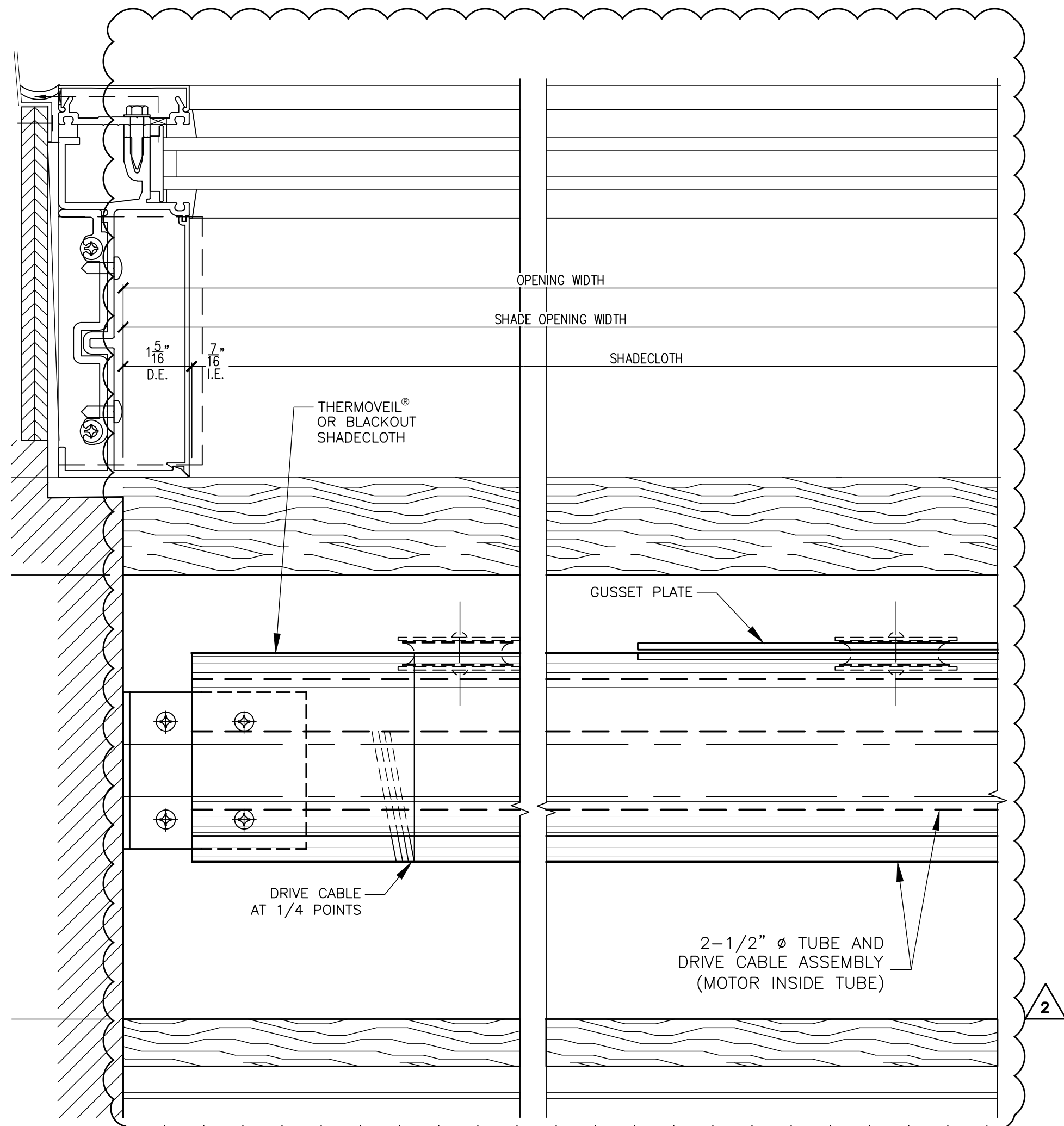
PRINTS				
RW	REP	FOR	TO	DATE
4	1	APPL	DLR	11/29
4	1	APPL	DLR	12/20
4	1	APPL	DLR	01/18



**A-A TYPICAL SECTION**  
SCALE: 6" = 1'-0"

**POCKET INSTALLER NOTE**  
1 - POCKET MUST BE INSTALLED LEVEL AND PARALLEL TO WINDOW WALL.  
2 - POCKET FASTENERS MUST NOT INTERFERE WITH BRACKET LOCATIONS.

**8 TYPICAL SECTION**  
SCALE: 6" = 1'-0" ARCH. REF. 2/A 4.3



**C REFLECTED**  
SCALE: 6" = 1'-0"

**C.1 REFLECTED WITH GUSSET PLATE**  
SCALE: 6" = 1'-0"

- BOTTOM-UP SHADE SYSTEM WILL BE SUBJECT UP TO 400 lbs OF PULLING FORCE. BLOCKING/STRUCTURAL SUPPORT NEEDS TO BE DESIGNED TO WITHSTAND THIS FORCE. BLOCKING AND SUPPORT DESIGN IS NOT INCLUDED. ALL BLOCKING/SUPPORT SHOWN ON THIS DRAWING IS FOR REFERENCE ONLY. BLOCKING IS NOT IN CONTRACT.**
- STRUCTURAL SUPPORT MUST BE SQUARE AND PARALLEL TO THE SUPPORT OPPOSITE. THE DIAGONALS SHALL BE MEASURED WITHIN 1/2" TO ASSURE SUPPORT IS PARALLEL AND SQUARED.**
- ALL MOTORS MUST BE ACCESSIBLE FOR INSTALLATION AND MAINTENANCE.**
- SYSTEM WEIGHT IS 120 LBS PER SHADE UNIT.**

NOTES:  
SEE SHEET #1

**SHOP DRAWING DIMENSIONS**  
DETAILS: HARDWARE SIZES ± 1/32" (0.79mm)  
ROLL DIAMETER SIZES ± 1/8" (3.18mm)  
EDGE CLEARANCE ± 3/16" (4.76mm)  
SHADE BANDS: RollerShade width and height dimensions (W x HT) are approximate, subject to final field dimensions to be scheduled by the Dealer/Contractor and provided to MechoShade Systems for fabrication in accordance with Contract Documents. Shop drawings are for typical details and shade locations only. Final sizes are not included. All blocking and supports are shown for reference only. Blocking design is not included in this Shop Drawing. Blocking is Not In Contract.

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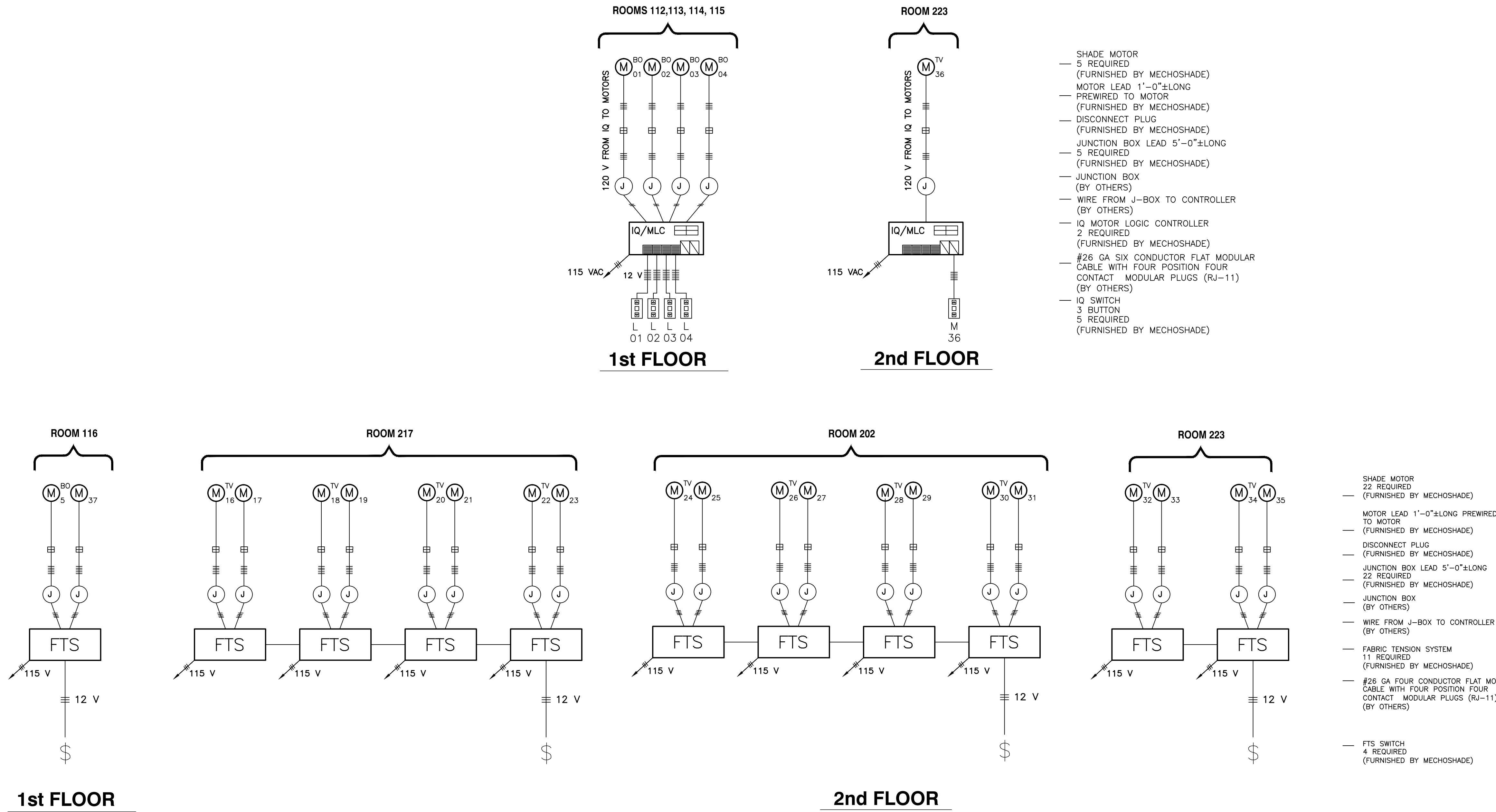
NO.	DATE	DESCRIPTION	BY
4			
3			
2	01/18/11	PER ARCHITECT'S REVISION	D.M.
1	12/28/10	PER ARCHITECT'S REVISION	D.M.

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JOB	THE RIVERS SCHOOL NEW CAMPUS CENTER WESTON, MA	DWG NO.	M-3226ESBF	REV.	2
TITLE	PROPOSED DETAILS "ELECTRO" SHADES	PROPOSAL NO.	175426-0-3	SCALE	AS NOTED
ARCHITECT	DARIO DESIGNS, INC	DATE	11/29/10	CD. BY	G.B.
DRIVER-TEX CONSTRUCTION SPECIALTIES, INC		DWN. BY	J.L.R.	SHEET NO.	5 OF 10



PRINTS				
REV	SEP	FOR	TO	DATE
4	1	APPL	DLR	11/29
4	1	APPL	DLR	12/20
4	1	APPL	DLR	01/18



## WIRING SCHEMATIC

SCALE: N.T.S.

NOTES:  
SEE SHEET #1

### SHOP DRAWING DIMENSIONS

DETAILS: HARDWARE SIZES ± 1/32" (0.79mm)  
ROLL DIAMETER SIZES ± 1/8" (3.18mm)  
EDGE CLEARANCE ± 3/16" (4.76mm)

SHADE BANDS:  
RollerShade width and height dimensions (W x HT) are approximate, subject to final field dimensions to be scheduled by the Dealer/Contractor and provided to MechoShade Systems for fabrication in accordance with Contract Documents. Shop drawings are for typical details and shade locations only. Final sizes are not included. All blocking and supports are shown for reference only. Blocking design is not included in this Shop Drawing. Blocking is Not In Contract.

FILE NAME: I:\Shop DWGs Current\M-3226ESBF - The Rivers School\Rev.2\WIRING.dwg

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JOB THE RIVERS SCHOOL  
NEW CAMPUS CENTER  
WESTON, MA

TITLE PROPOSED DETAILS  
"ELECTRO" SHADES

ARCHITECT DARIO DESIGNS, INC

DEVELOPER-TEX CONSTRUCTION SPECIALTIES, INC

DWG NO. M-3226ESBF  
JOB NO. 504595

PROPOSAL NO. 175426-0-3  
DATE 11/29/10 SCALE AS NOTED

DWN. BY J.L.R. CKD. BY G.B.

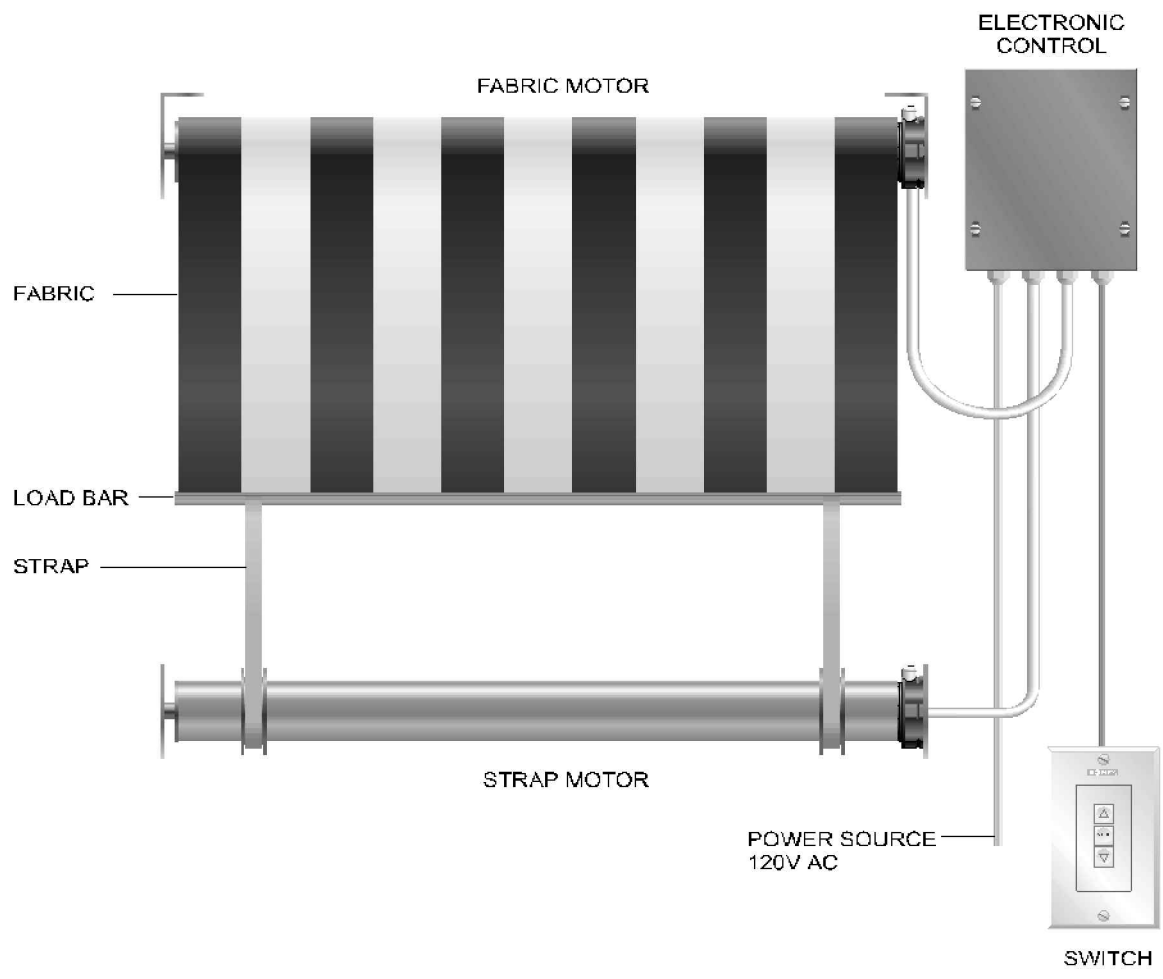
SHEET NO. 7 OF 10

INTRODUCTION

FTS – Fabric Tension System

The FTS is a specialized system designed for the solar protection market where horizontal or inclined type shading is required.

The system consists of 2 specific operators (or "motors"), an electronic control unit, and a switch. One operator is inserted into the fabric roll-up tube and is referred to as the **fabric motor**, and the other is inserted into the strap take-up tube and is called the **strap motor**. While not every application will have a load bar and straps as in the diagram below, these references will help to reduce confusion during installation.

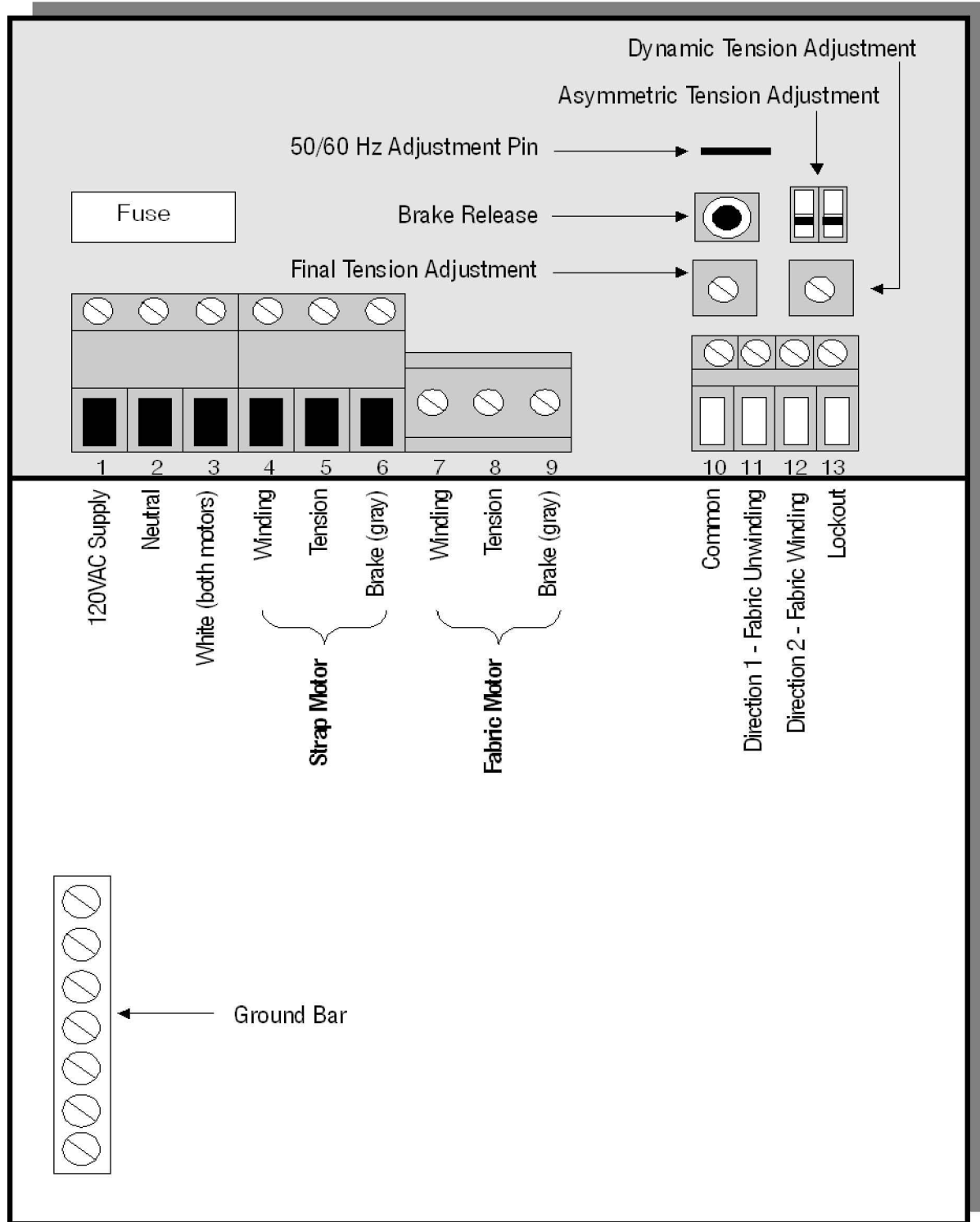


The electronic unit controls each motor independently and maintains a desirable dynamic (moving) tension as well as final tension in the system, eliminating fabric sag while the fabric is both moving and standing. Adjustments to both dynamic and final tension can be made via the electronic control.

1

FTS Control Diagram

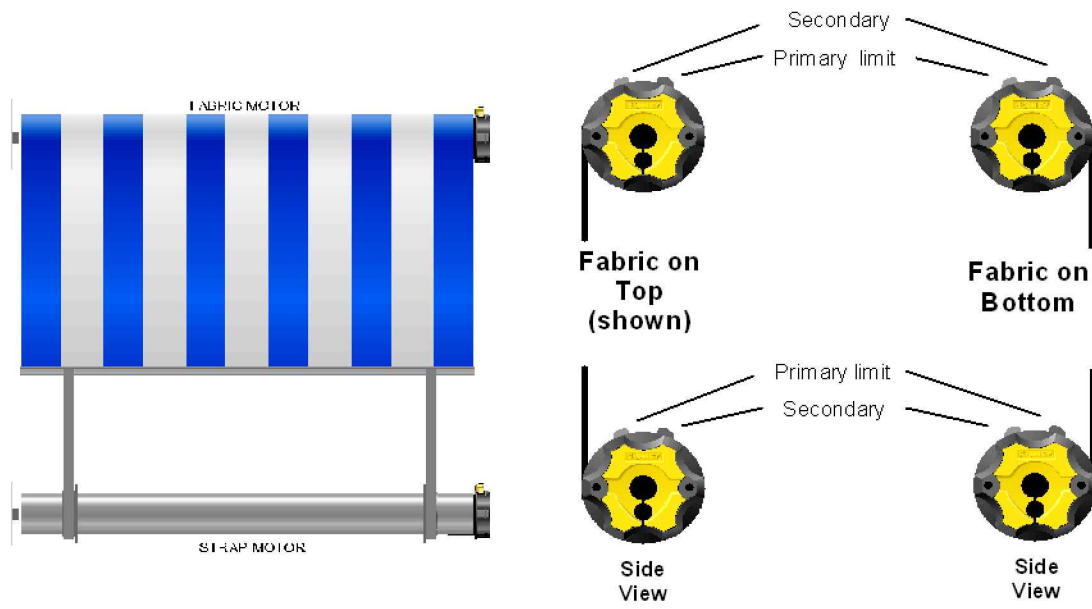
The diagram below highlights the user-accessible adjustments to the FTS Control.



2

Limit Setting

Both limits will be set on each motor. Use the following illustrations to determine which limits are set for a given motor rotation and fabric orientation. Before proceeding, press in both limits on each motor.



At this point, it is assumed that the correct size operators have been selected using the SOMFY FTS selector chart. Operators should be fit into tubes in accordance with standard installation instructions, using the correct crown and drive. All mechanical accessories of the system, and the mounting method must be capable of withstanding the tension and forces exerted by the motors. Both limit switches on each motor should be depressed and locked in the "in" position.

The motorized tubes should be mounted onto their respective brackets. The locking stop ring included with each operator **MUST** be used with the motor end bracket. Ensure that the motorized tubes are parallel. Do not connect straps to strap motor (at this moment).

Attach fabric to the fabric tube. Connect the test cable to the motor leads as shown in the table below:

Fabric Motor	Test Cable	Strap Motor
Fabric Winding	Black	
Gray	Brown	Gray
Green	Green	Green
White	White	White
	Red	Strap Winding

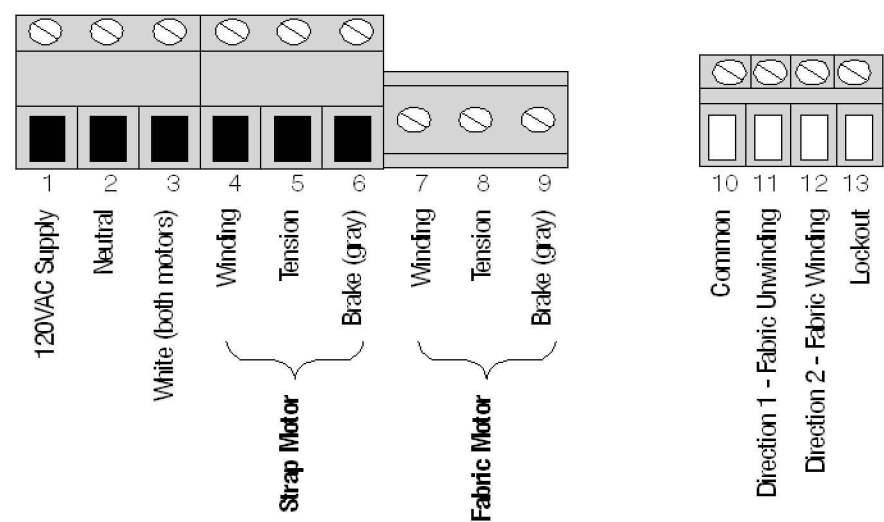
\*Follow these directions carefully to avoid injury or damage\*

1. Wind the fabric around the fabric tube using the tester cable. When the desired position is reached, set the fabric tube limit by pressing and releasing the PRIMARY limit on the fabric tube motor.
2. Attach the pulleys and straps to strap tube. Adjust the straps as required to ensure that they are all the same length.
3. Wind the fabric around the fabric motor, again. When the desired position is reached (note: fabric motor will stop itself at its previously set limit), press and release the secondary limit on the strap motor.
4. Before connecting the motors to the controller, run the system (using the tester cable) in both directions to verify that the system works correctly within its newly set limits. **NOTE: If any limits need to be readjusted, be sure to re-set both the primary and secondary limits for the system in the correct order as described above.**

Final Connections

Before connecting the operators to the electronic control, set the tension adjustment potentiometers to "0" and ensure that all the dip switches are in the "off" position.

Connect the motors and switch to the electronic control as shown:



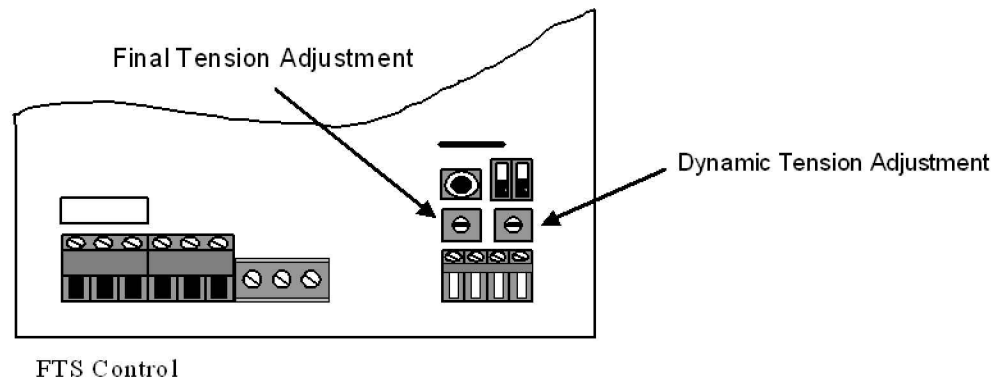
5

Check that the system operates correctly with respect to the switch directions. Make sure the limits have been properly set. At this point, there may be some fabric sag – this is normal.

Go to Setting Dynamic and Final Tension.

Setting Dynamic and Final Tension

Beginning with dynamic tension, set the dynamic and final tensions of the system by gradually increasing the settings on the potentiometers. The Dynamic Tension Adjustment is located above the switch input terminals, as shown below. If your FTS System is mounted vertically, see "FTS Adjustment For Vertical Mounting," then come back to this section.

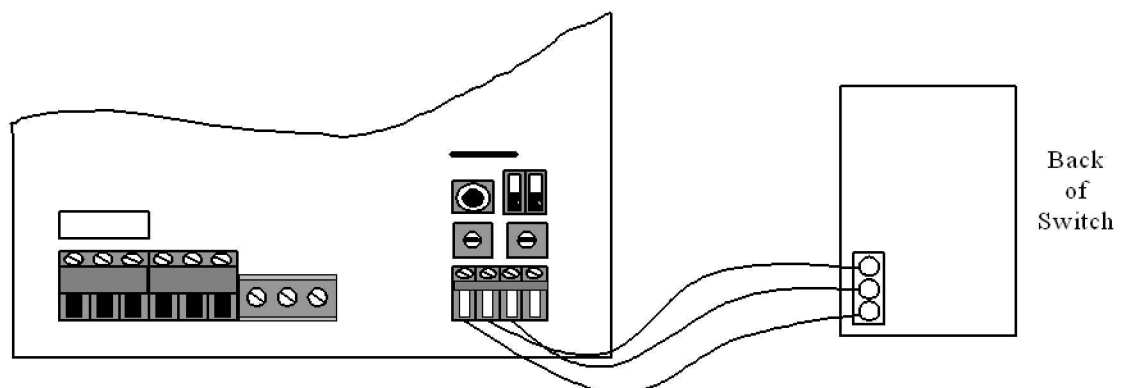


Zero is the lowest setting; turning the adjustment higher (9 is the highest) will increase the amount of tension and reduce the amount of sag while the motors are running. Gradually adjust the tension to a desirable setting, then adjust the final tension.

Normally, when the FTS receives a stop command or the motors hit their limits, the motors stop, and then the FTS control will run one motor briefly to adjust the final tension. When setting the final tension of the system, care should be taken to ensure that all the mounting hardware and support are capable of withstanding the load. Again, zero is the lowest setting and 9 is the highest. Start at zero and gradually adjust the final tension to a desirable setting.

Switch Connections

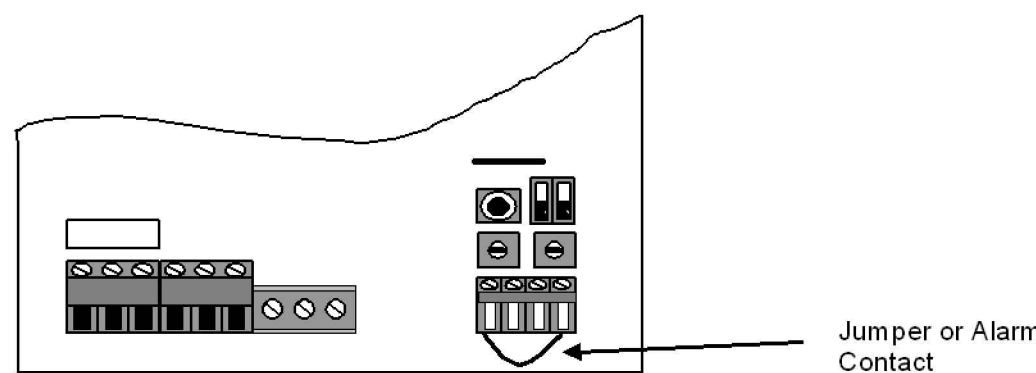
The FTS Switch has three terminals, for Direction 1, Direction 2, and Common. Connections should be made as follows:



6

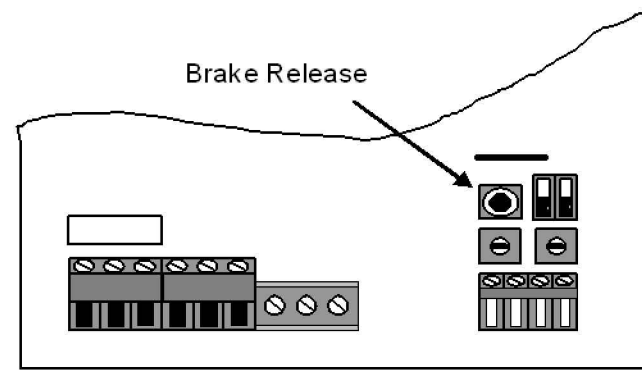
Open Window Lockout

The FTS control features input terminals for an Open Window Lockout signal. When connected to an open window alarm contact, this feature helps prevent damage to the system by disabling the control when the window is open. If an alarm contact is used, the circuit should be opened when the control is to be locked out. Similarly, if this feature is not used, there should be a jumper in place as shown.



Strap Adjustment and Fabric Repair

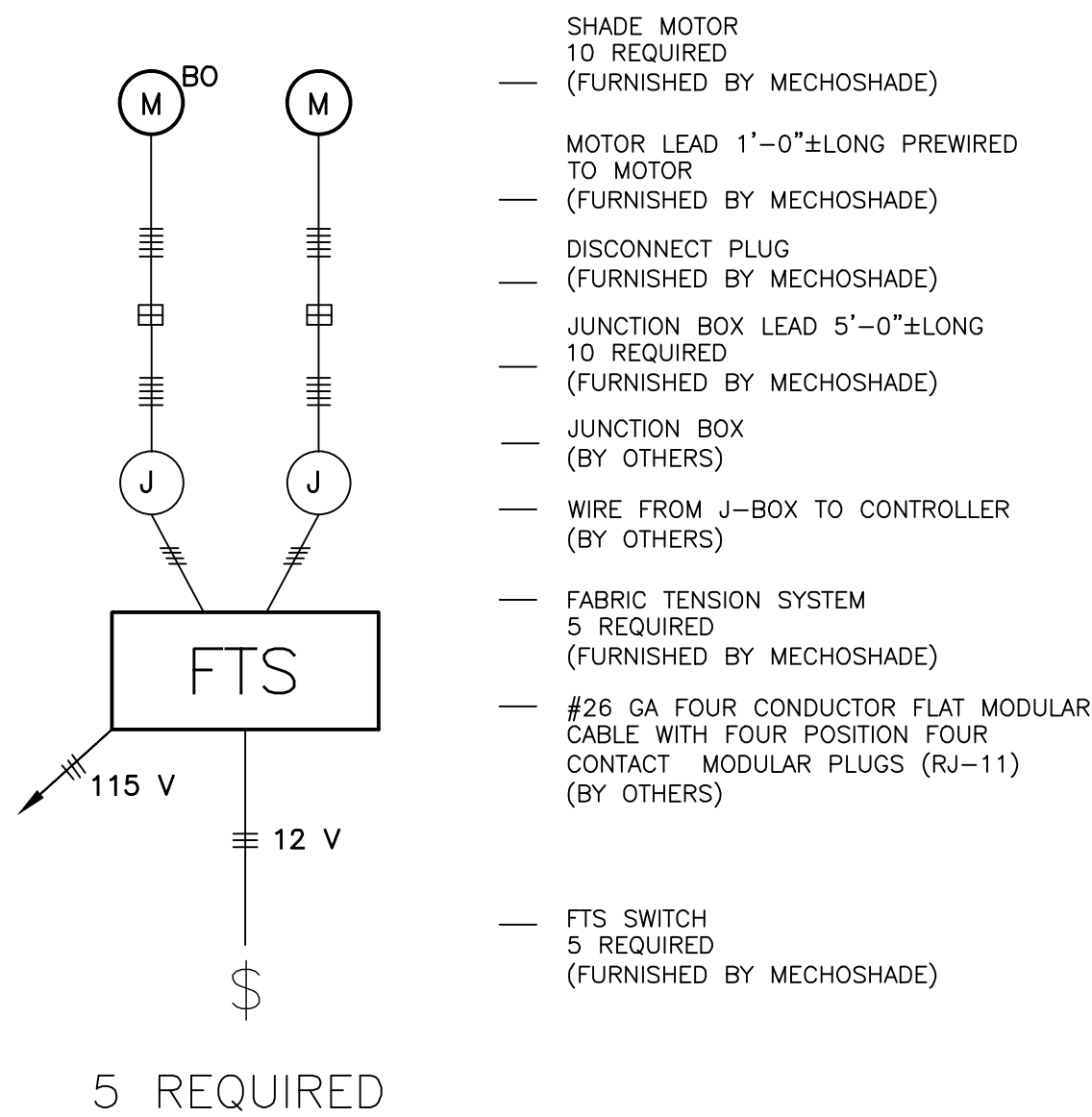
If the Straps must be adjusted or the system must be disassembled for service, the first step is to disengage the motor brakes. Simply press the Brake Release button inside the electronic control unit. When finished, the system will automatically take up any slack in the fabric and continue to operate normally.



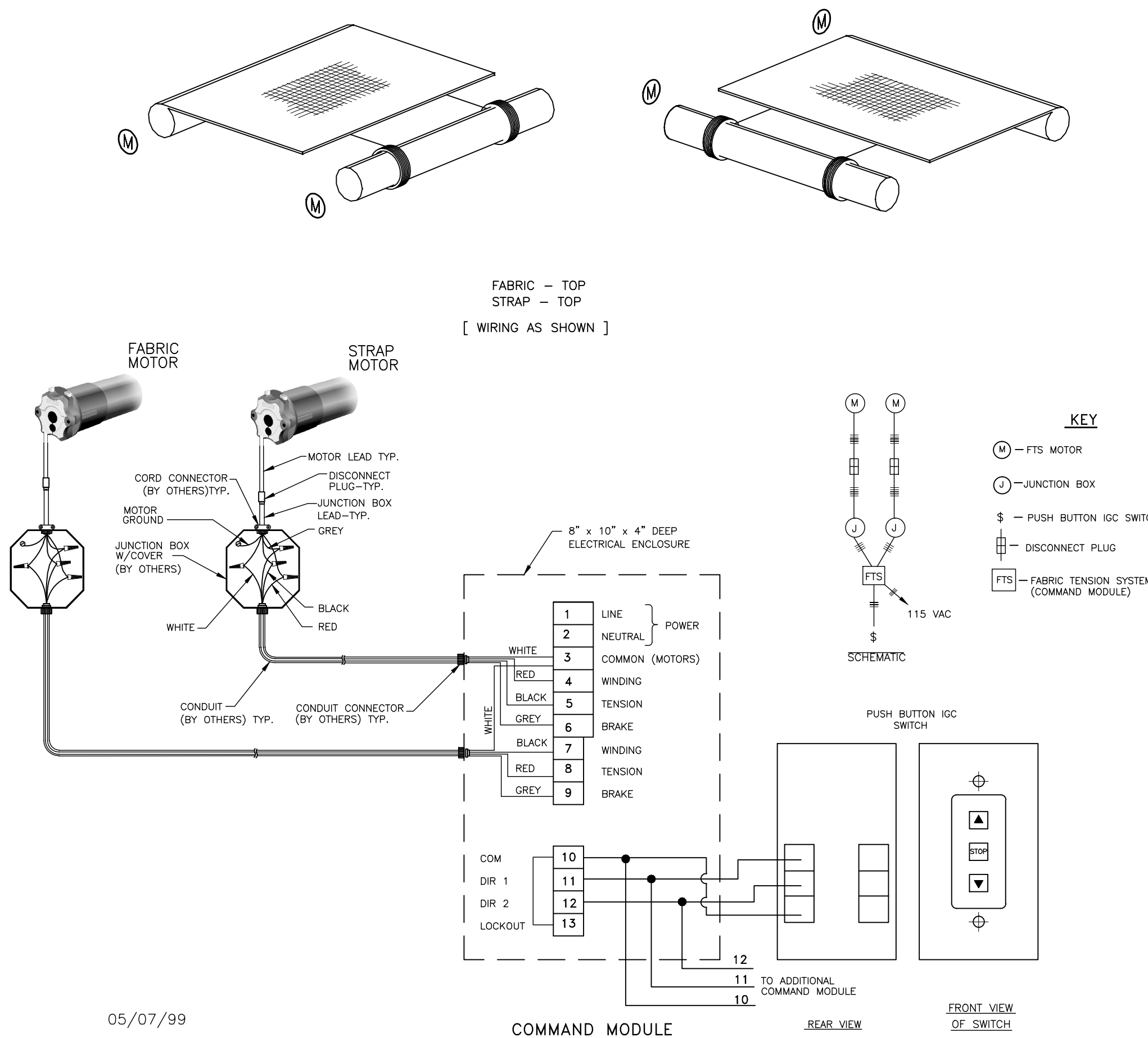
7

PRELIMINARY WIRING CONNECTIONS.

VERIFY MOTOR LOCATION IN FIELD. FINAL WIRING CONNECTIONS TO BE PROVIDED AFTER RECEIPT OF "AS BUILT" WIRING INFORMATION.



WIRING SCHEMATIC



05/07/99

COMMAND MODULE

FRONT VIEW OF SWITCH

REAR VIEW

STANDARD WIRING DIAGRAM 2 MOTORS W/ 1 FTS MODULES ON ONE SWITCH

NOTES:  
SEE SHEET #1

05/11/99

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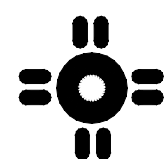
SHOP DRAWING DIMENSIONS

DETAILS: HARDWARE SIZES ± 1/32" (0.79mm)  
ROLL DIAMETER SIZES ± 1/8" (3.18mm)  
EDGE CLEARANCE ± 3/16" (4.76mm)

SHADE BANDS: RollerShade width and height dimensions (W x HT) are approximate, subject to final field dimensions to be scheduled by the Dealer/Contractor and provided to MechoShade Systems for fabrication in accordance with Contract Documents. Shop drawings are for typical details and shade locations only. Final sizes are not included. All blocking and supports are shown for reference only. Blocking design is not included in this Shop Drawing. Blocking is Not In Contract.

FILE NAME: I:\Shop DWGs Current\M-3226ESBF - The Rivers School\Rev 2\fts-instructions-#1.dwg

NO.	DATE	DESCRIPTION	BY
4			
3			
2	01/18/11	NO CHANGE	D.M.
1	12/20/10	NO CHANGE	D.M.



**MechoShade Systems, Inc.**  
42-03 35th Street  
Long Island City, NY 11101  
Tel: 718-729-2020  
Fax: 718-729-2941

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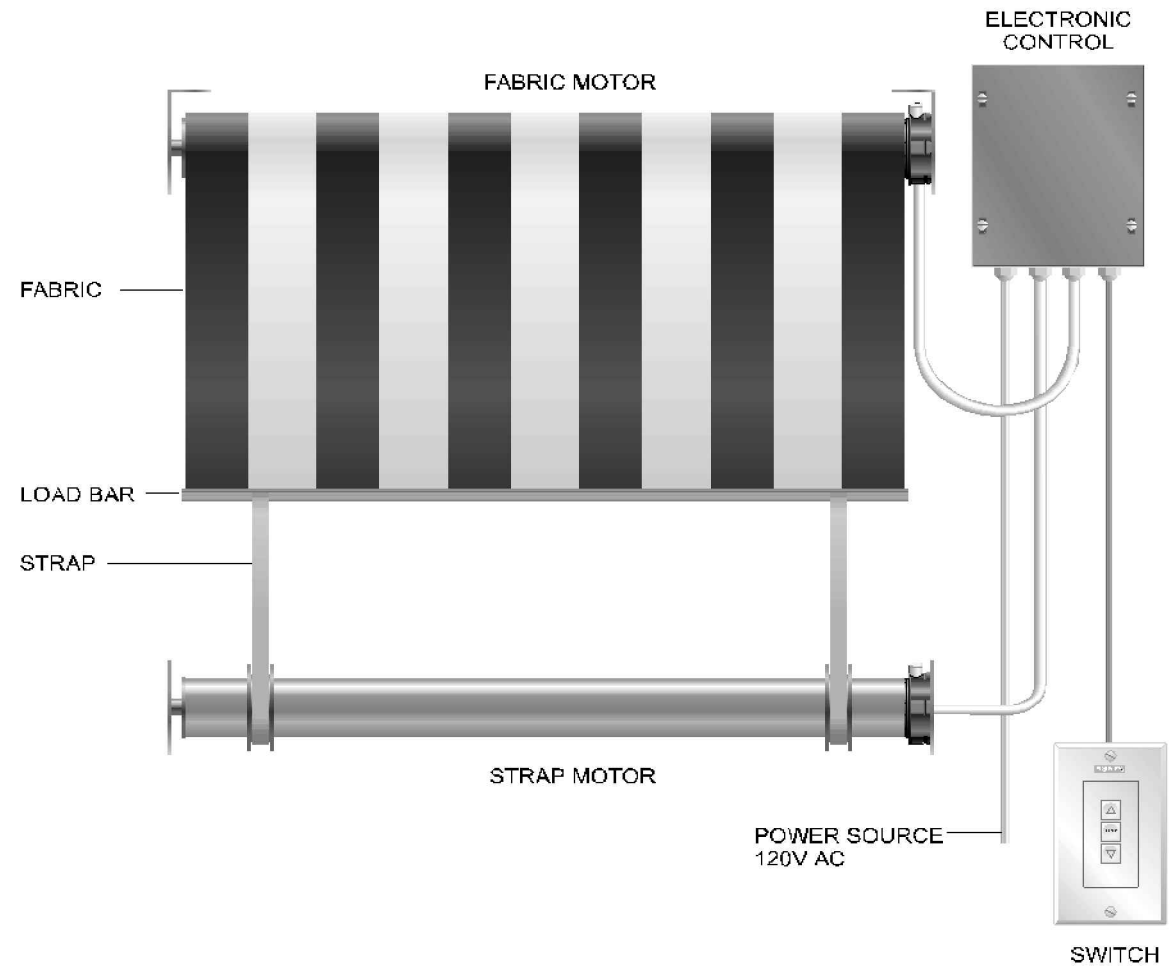
JOB	THE RIVERS SCHOOL NEW CAMPUS CENTER WESTON, MA	DWG NO. M-3226ESBF	REV. 2
TITLE	PROPOSED DETAILS "ELECTRO" SHADES	JOB NO. 504595	PROPOSAL NO. 175426-0-3
ARCHITECT	DARIO DESIGNS, INC	DATE 11/29/10	SCALE AS NOTED
DESIGNER	DEVER-TEX CONSTRUCTION SPECIALTIES, INC	DWN. BY J.L.R.	CKD. BY G.B.
		SHEET NO. 8	OF 10

INTRODUCTION

FTS – Fabric Tension System

The FTS is a specialized system designed for the solar protection market where horizontal or inclined type shading is required.

The system consists of 2 specific operators (or "motors"), an electronic control unit, and a switch. One operator is inserted into the fabric roll-up tube and is referred to as the **fabric motor**, and the other is inserted into the strap take-up tube and is called the **strap motor**. While not every application will have a load bar and straps as in the diagram below, these references will help to reduce confusion during installation.

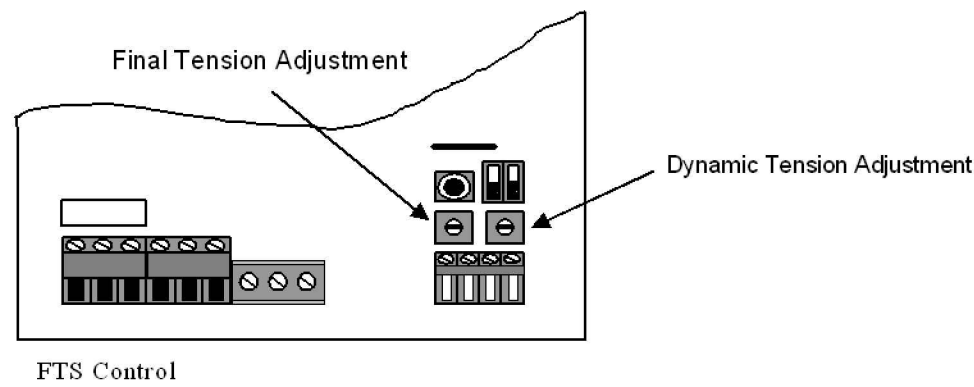


The electronic unit controls each motor independently and maintains a desirable dynamic (moving) tension as well as final tension in the system, eliminating fabric sag while the fabric is both moving and standing. Adjustments to both dynamic and final tension can be made via the electronic control.

1

Setting Dynamic and Final Tension

Beginning with dynamic tension, set the dynamic and final tensions of the system by gradually increasing the settings on the potentiometers. The Dynamic Tension Adjustment is located above the switch input terminals, as shown below. If your FTS System is mounted vertically, see "FTS Adjustment For Vertical Mounting," then come back to this section.

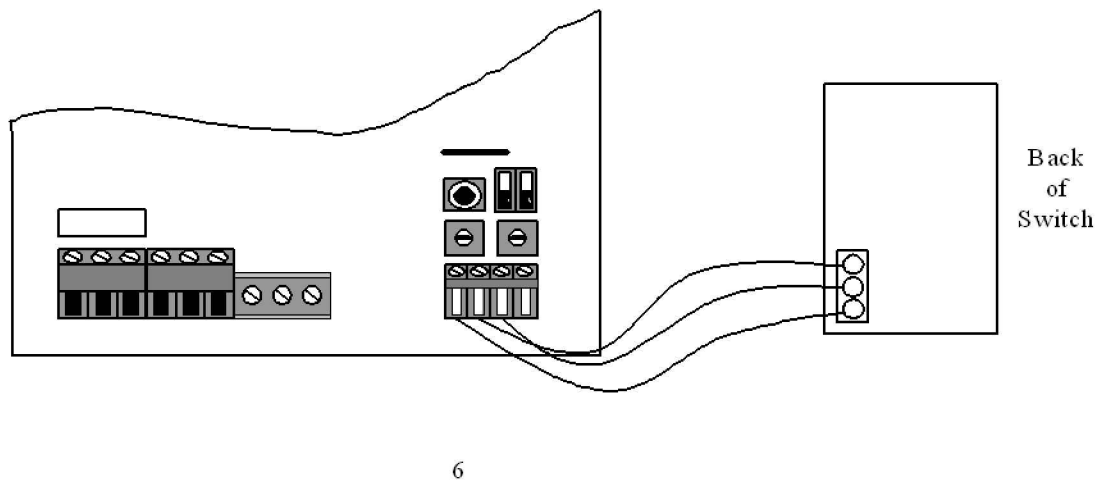


Zero is the lowest setting; turning the adjustment higher (9 is the highest) will increase the amount of tension and reduce the amount of sag while the motors are running. Gradually adjust the tension to a desirable setting, then adjust the final tension.

Normally, when the FTS receives a stop command or the motors hit their limits, the motors stop, and then the FTS control will run one motor briefly to adjust the final tension. When setting the final tension of the system, care should be taken to ensure that all the mounting hardware and support are capable of withstanding the load. Again, zero is the lowest setting and 9 is the highest. Start at zero and gradually adjust the final tension to a desirable setting.

Switch Connections

The FTS Switch has three terminals, for Direction 1, Direction 2, and Common. Connections should be made as follows:

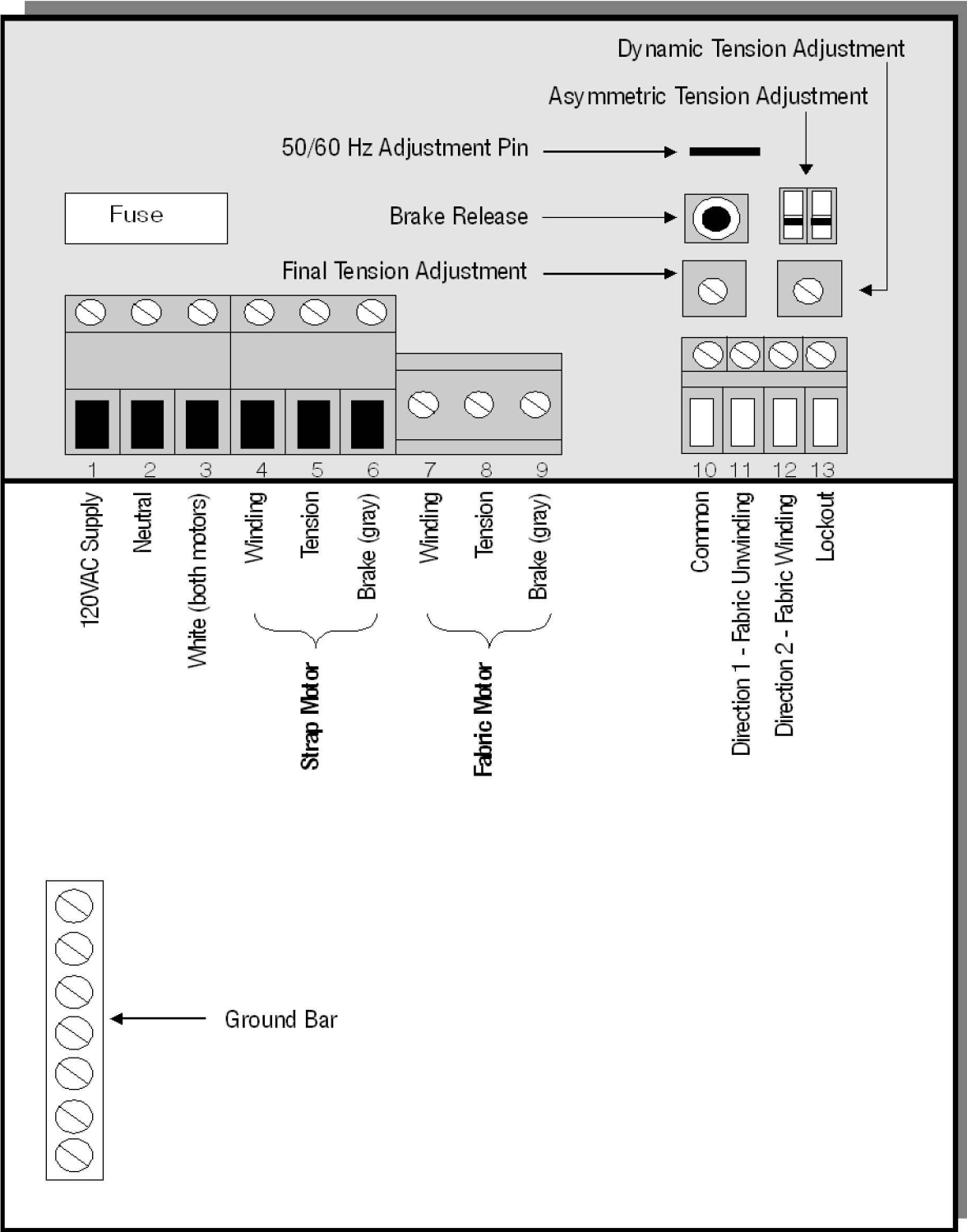


6

WIRING INFORMATION ON THIS PAGE APPLIES ONLY TO SHADES LABELED WT#2 ON LOCATION PLAN - SHEET# 1

FTS Control Diagram

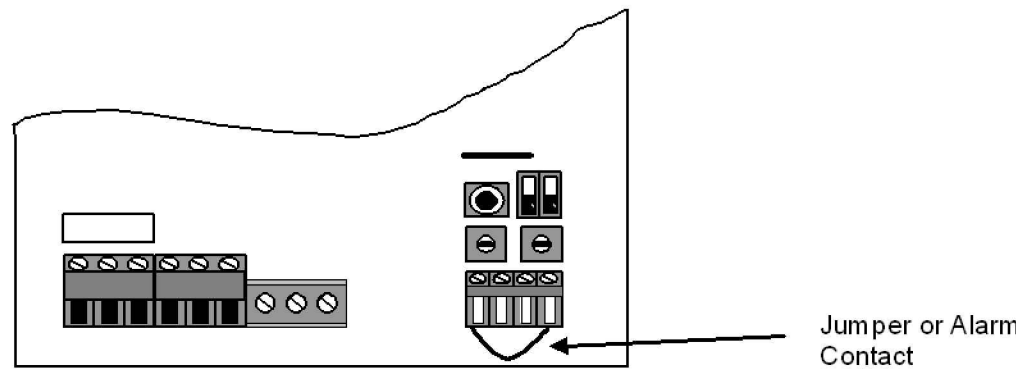
The diagram below highlights the user-accessible adjustments to the FTS Control.



2

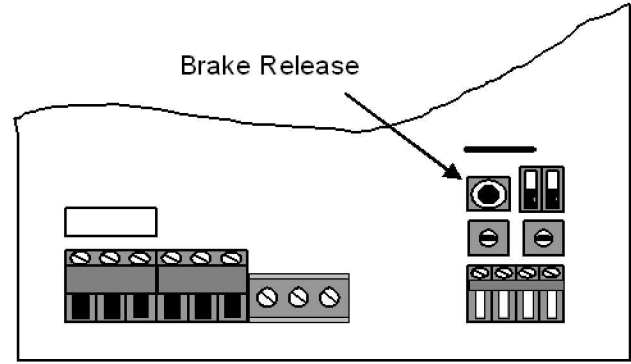
Open Window Lockout

The FTS control features input terminals for an Open Window Lockout signal. When connected to an open window alarm contact, this feature helps prevent damage to the system by disabling the control when the window is open. If an alarm contact is used, the circuit should be opened when the control is to be locked out. Similarly, if this feature is not used, there should be a jumper in place as shown.



Strap Adjustment and Fabric Repair

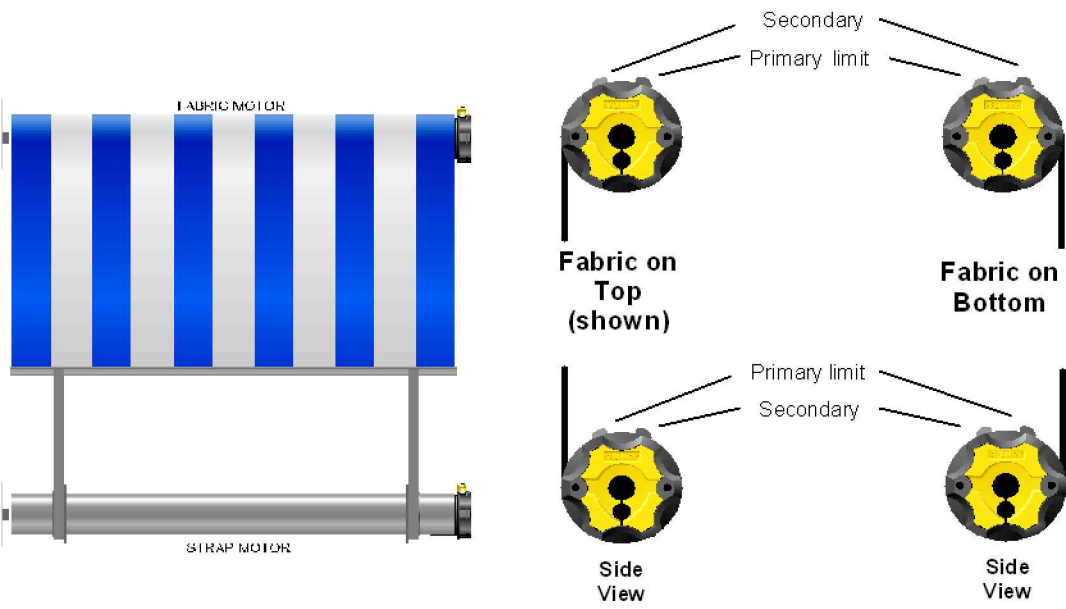
If the Straps must be adjusted or the system must be disassembled for service, the first step is to disengage the motor brakes. Simply press the Brake Release button inside the electronic control unit. When finished, the system will automatically take up any slack in the fabric and continue to operate normally.



7

Limit Setting

Both limits will be set on each motor. Use the following illustrations to determine which limits are set for a given motor rotation and fabric orientation. Before proceeding, press in both limits on each motor.



At this point, it is assumed that the correct size operators have been selected using the SOMFY FTS selector chart. Operators should be fit into tubes in accordance with standard installation instructions, using the correct crown and drive. All mechanical accessories of the system, and the mounting method must be capable of withstanding the tension and forces exerted by the motors. Both limit switches on each motor should be depressed and locked in the "in" position.

The motorized tubes should be mounted onto their respective brackets. The locking stop ring included with each operator **MUST** be used with the motor end bracket. Ensure that the motorized tubes are parallel. Do not connect straps to strap motor (at this moment).

Attach fabric to the fabric tube. Connect the test cable to the motor leads as shown in the table below:

Fabric Motor	Test Cable	Strap Motor
Fabric Winding	Black	
Gray	Brown	Gray
Green	Green	Green
White	White	White
	Red	Strap Winding

PRELIMINARY WIRING CONNECTIONS.

VERIFY MOTOR LOCATION IN FIELD. FINAL WIRING CONNECTIONS TO BE PROVIDED AFTER RECEIPT OF "AS BUILT" WIRING INFORMATION.

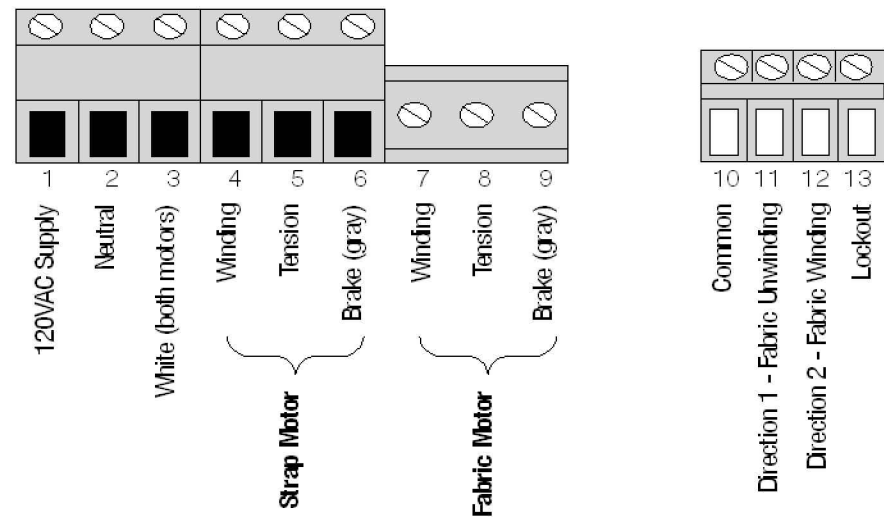
\*Follow these directions carefully to avoid injury or damage\*

1. Wind the fabric around the fabric tube using the tester cable. When the desired position is reached, set the fabric tube limit by pressing and releasing the PRIMARY limit on the fabric tube motor.
2. Attach the pulleys and straps to strap tube. Adjust the straps as required to ensure that they are all the same length.
3. Wind the fabric around the fabric motor, again. When the desired position is reached (note: fabric motor will stop itself at its previously set limit), press and release the secondary limit on the strap motor.
4. Before connecting the motors to the controller, run the system (using the tester cable) in both directions to verify that the system works correctly within its newly set limits. **NOTE: If any limits need to be readjusted, be sure to re-set both the primary and secondary limits for the system in the correct order as described above.**

Final Connections

Before connecting the operators to the electronic control, set the tension adjustment potentiometers to "0" and ensure that all the dip switches are in the "off" position.

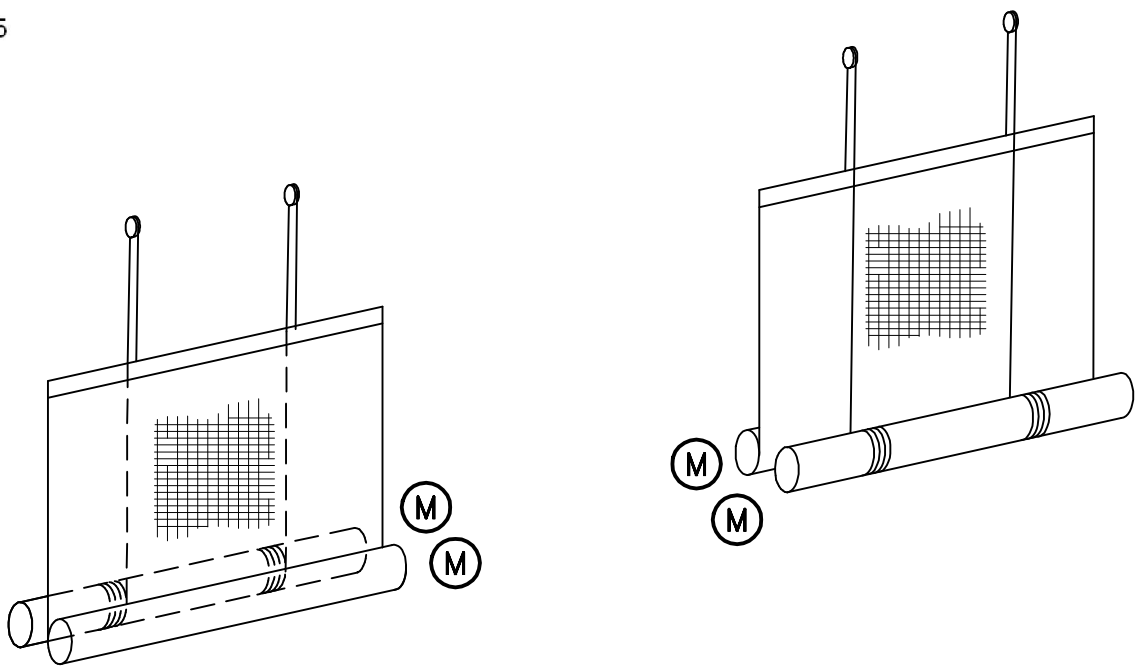
Connect the motors and switch to the electronic control as shown:



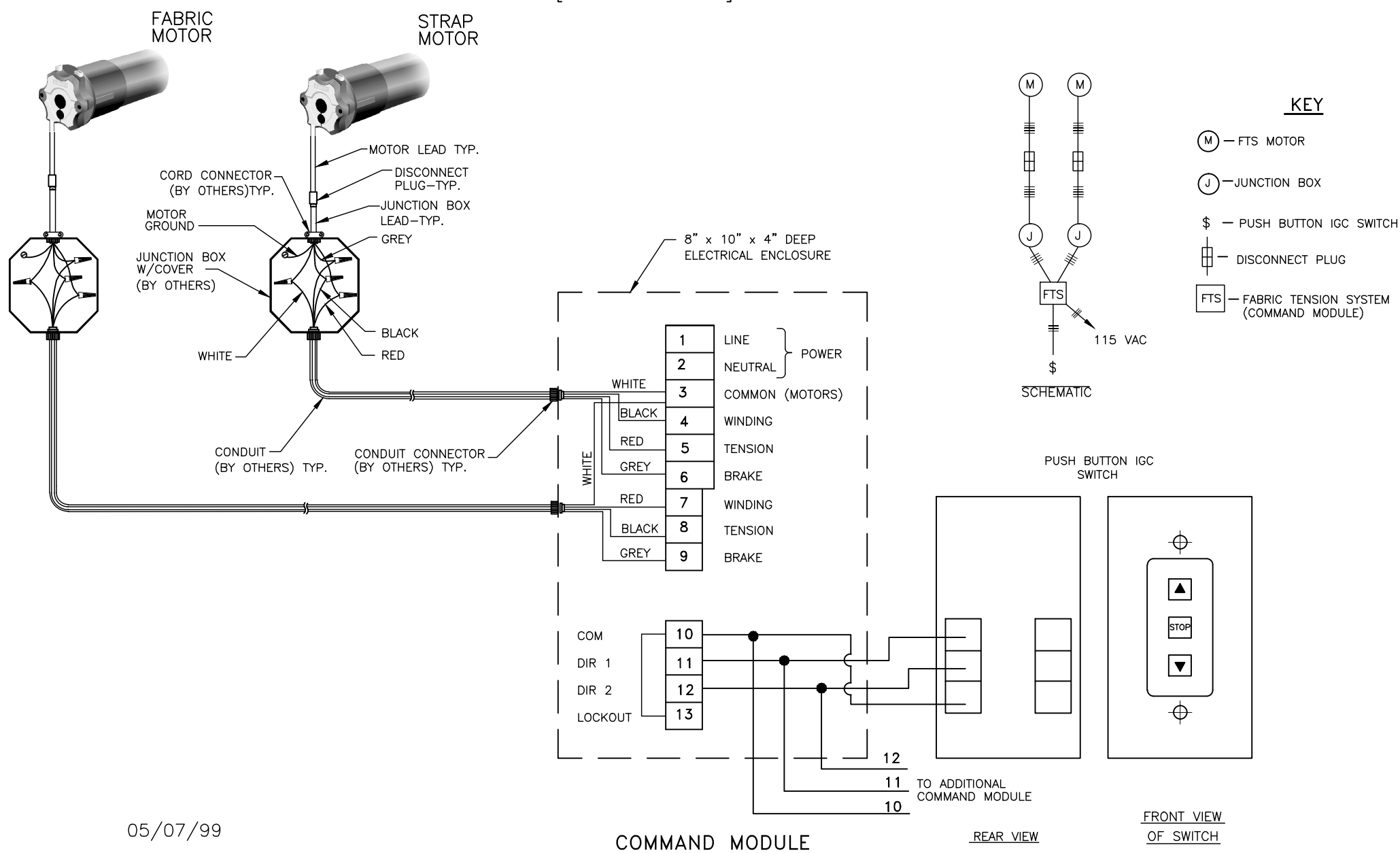
5

Check that the system operates correctly with respect to the switch directions. Make sure the limits have been properly set. At this point, there may be some fabric sag – this is normal.

Go to Setting Dynamic and Final Tension.



FABRIC – TOP  
STRAP – TOP  
[ WIRING AS SHOWN ]



05/07/99

COMMAND MODULE

REAR VIEW

FRONT VIEW OF SWITCH

STANDARD WIRING DIAGRAM 2 MOTORS W/ 1 FTS MODULES ON ONE SWITCH

NOTES:  
SEE SHEET #1

05/11/99

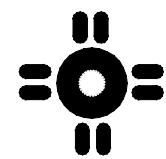
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SHOP DRAWING DIMENSIONS  
DETAILS: HARDWARE SIZES ± 1/32" (0.79mm)  
ROLL DIAMETER SIZES ± 1/8" (3.18mm)  
EDGE CLEARANCE ± 3/16" (4.76mm)

SHADE BANDS:  
RollerShade width and height dimensions (W x HT) are approximate, subject to final field dimensions to be scheduled by the Dealer/Contractor and provided to MechoShade Systems for fabrication in accordance with Contract Documents. Shop drawings are for typical details and shade locations only. Final sizes are not included.

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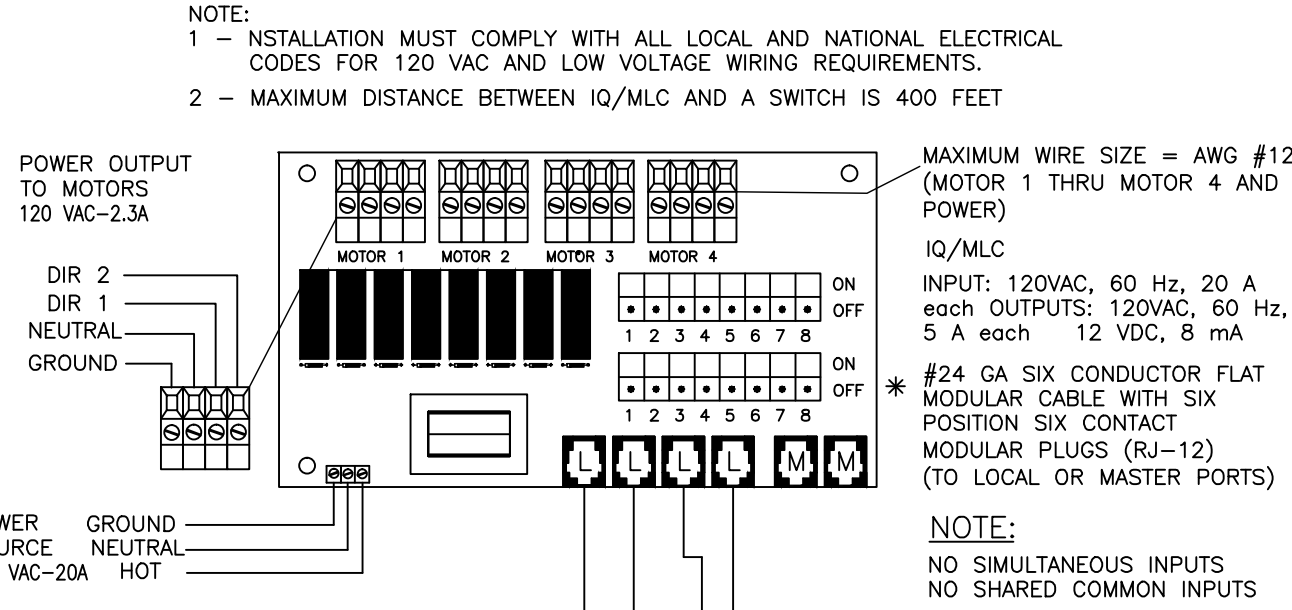
**MechoShade Systems, Inc.**  
42-03 35th Street  
Long Island City, NY 11101  
Tel: 718-729-2020  
Fax: 718-729-2941

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JOB	THE RIVERS SCHOOL NEW CAMPUS CENTER WESTON, MA	DWG NO. M-3226ESBF	REV. 2
TITLE	PROPOSED DETAILS "ELECTRO" SHADES	PROPOSAL NO. 504595	SCALE AS NOTED
ARCHITECT	DARIO DESIGNS, INC	DATE 11/29/10	DWN. BY J.L.R.
DESIGNER	TECH CONSTRUCTION SPECIALTIES, INC	Ckd. BY G.B.	SHEET NO. 9 OF 10

PRINTS				
RW	REP	FOR	TO	DATE
4	1	APPL	DLR	11/29
4	1	APPL	DLR	12/20
4	1	APPL	DLR	01/18

## Connecting to Other Interfaces



The IQ/MLC can be connected to any interface that uses a momentary dry contact closure (3 dry contact closures per switch for full function or 2 for partial).

Local Ports	Master Ports & Local Ports
Local Ports use a 4-conductor 24 gauge modular cable and RJ11 connector with the following pin positions:	Master Ports use a 6-conductor 26 gauge flat modular cable and RJ12 connector with the following pin positions:
Pin 1: Common (Black) Pin 2: Top (Red) Pin 3: Middle (Green) Pin 4: Bottom (Yellow)	Pin 1: Not used (White) Pin 2: Common (Black) Pin 3: Top (Red) Pin 4: Middle (Green) Pin 5: Bottom (Yellow) Pin 6: Ground (Blue)

Only momentary closures of a minimum one-half of a second will engage the relays to raise or lower the shades. Maintained closures will not activate relays for the period of time they are closed. To stop shades at any point along the window, a momentary closure is required between common and any direction or middle pin.  
For example, if shades are to be brought to the 50% point from the local port, a momentary closure between pins 1 and 3 would be required. However from the master port, a momentary closure between pins 2 and 4 would be required.

**Calibration Mode:**  
Calibration Mode can be activated from the master port by closing contacts between pins 2, 3 and 5 simultaneously for a minimum of 10 seconds. Calibration can also be accessed from a local port only for those motors associated to that local port (via dip switch settings) by closing contacts between pins 1, 2 and 4 simultaneously for a minimum of 10 seconds.

**Uniform Mode:**  
To access or leave the Uniform Mode from the master port, close contacts between pins 2, 3, 4 and 5 simultaneously for a minimum of 10 seconds.

### Pin assignments for default and custom intermediate stop positions for both Local Ports and Master Ports

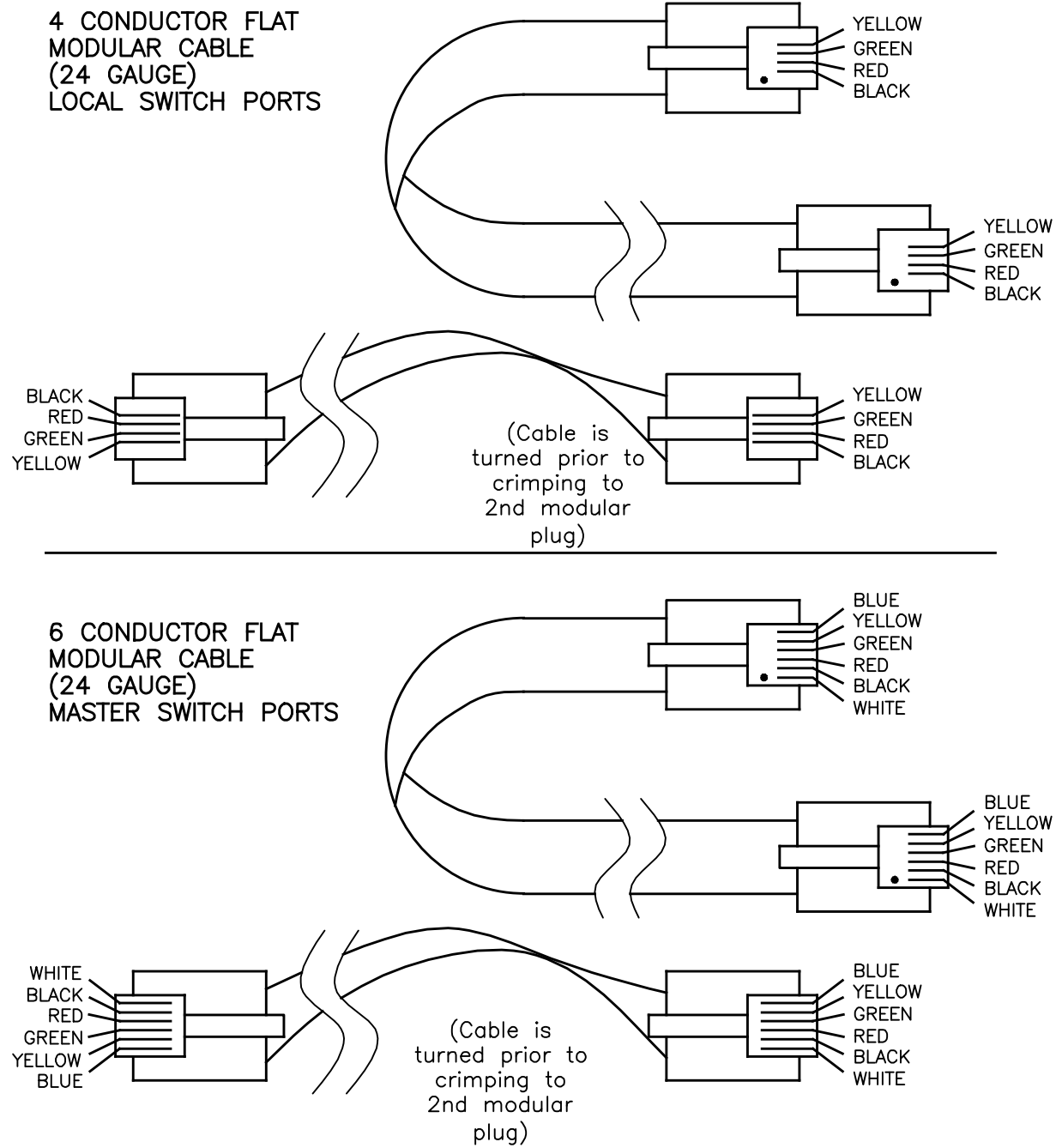
Position	Master Ports
Full Up	Pins 2 and 3
25% Down	Pins 2, 3 & 4
50% Down	Pins 2 and 4
75% Down	Pins 2, 4 & 5
Full Down	Pins 2 & 5

Position	Master Ports
Full Up	Pins 2 and 3
1st Position	Pins 2, 3 & 4
2nd Position	Pins 2 and 4
3rd Position	Pins 2, 4 & 5
Full Down	Pins 2 & 5

Custom Calibration (To activate: close contacts for 10 seconds minimum)		
Local Ports		Master Ports
Close contacts between		Pins 1, 3 and 4

Uniform Mode (To toggle in/out: close contacts for 10 seconds minimum)		
Local Ports		Master Ports
Close contacts between		Pins 1, 2, 3 and 4

### Crimping Instructions for IQ/MLC Four and Six Conductor Flat Modular Switching Cables



### STANDARD ELECTRICAL NOTES

All electrical-control equipment (switches, MLCs, SACs, WACs, photocells, anemometers, FTS units, etc.) as indicated is furnished only by MechoShade™ Systems, Inc., installed and wired by the Electrical Contractor.

All electrical-control equipment must be wired in accordance with the wiring diagrams prepared by MechoShade Systems and in accordance with the N.E.C. and local codes.

Except for I-Con Intelligent motor and / or RTS motor, parallel and/or series wiring of two or more motors on similar poles on a single switch or any other similar combination will void any applicable warranty and cause premature motor burnout.

For I-Con Intelligent motor and / or RTS motor, parallel and/or series wiring is allowed up to maximum circuit capacity

All wiring diagrams have been prepared for right-hand motors, regular roll or left-hand motors, reverse roll which are wired similarly. Right-hand motors, reverse roll and left-hand motors, regular roll require switching the red and black motor wires at the MLC (Motor-Logic Controllers) or the switch. This will prevent the motors from running in opposite directions.

All control equipment, such as MLCs (Motor-Logic Controllers), SACs/WACs (Sun-Activated Controllers/Wind Activated Controllers), AACs (astronomical Controllers), and all equipment that may have a transformer for low voltage must be wired in phase. If not in phase, premature transformers and/or motor burnout and inconsistent control operation may occur.

Electrical-control equipment may contain electromechanical relays, adjustment points, fuses, indicator lights, and other devices. These must be conveniently accessible for future servicing and adjustments during normal working hours and without disruption to the existing operations. This equipment shall be coded by the Electrical Contractor indicating shade locations and the specific motors which are controlled, and it shall be coded at the control equipment and circuit breaker.

Green motor wires are to be fastened to grounded junction boxes, conduits, or another suitable building ground.

#### STANDARD (BI-DIRECTIONAL) MOTORS

The standard ElectroShade™-motor lead is a PVC 4 conductor #18 stranded cable approximately one-foot (305mm) long with a 4 conductor disconnect-plug.

The standard ElectroShade™ furnished-only junction-box lead is the same type as the motor lead and has a plug compatible to it. This lead is approximately five-feet (1525 mm) long.

One or two motors can be wired on a single (double-pole, double-throw) switch. Please refer to Drawing No. M-160 for point-to-point connection. However, three or four motors wired to a single switch require the use of an MLC; five to eight motors require two MLCs; nine to 12 require three; and so forth. See Drawings No. M145 and M146.

#### FTS MOTORS

The standard ElectroShade™-motor lead is a PVC 5 conductor #18 stranded cable approximately one-foot (305mm) long with a 6 conductor disconnect-plug.

The standard ElectroShade™ furnished-only junction-box lead is the same type as the motor lead and has a plug compatible to it. This lead is approximately five-feet (1525 mm) long.

One or four FTS systems can be wired on a single push-button switch. Please refer to Drawing No. \_\_\_\_\_ for point-to-point connection. However, four or more FTS systems wired to a single switch require the use of a SGC; five to eight motors require one SGC; nine to 12 require two; and so forth. See Drawings No. \_\_\_\_\_

Some point-to-point wiring diagrams may not include motor disconnect-plugs, junction boxes, and cable raceways that may be essential for a complete installation.

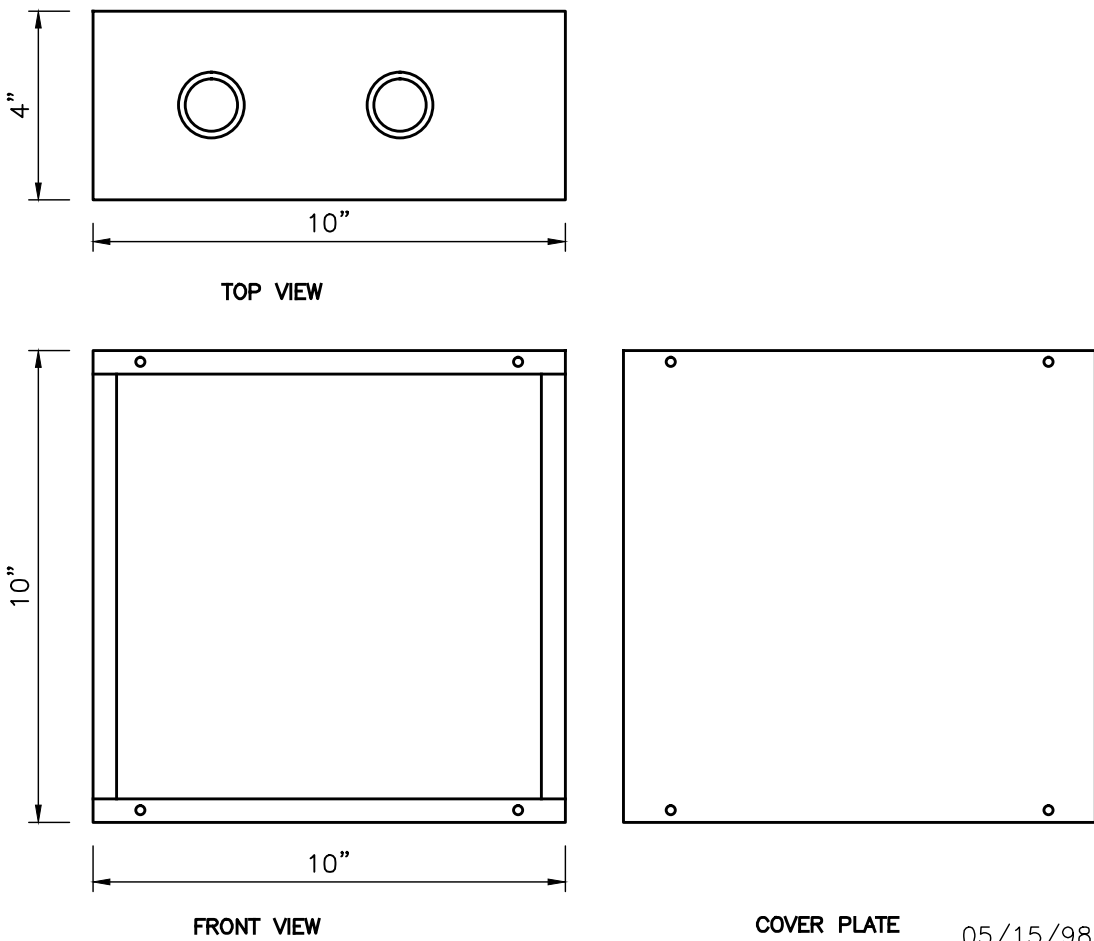
#### TYPICAL ELECTRICAL RATING FOR STANDARD MOTORS:

Motor 120 Volts 60HZ 0.9 Amps 108 Watts

Actual Electrical rating is Job specific and is based on required Motor and selected Control System.

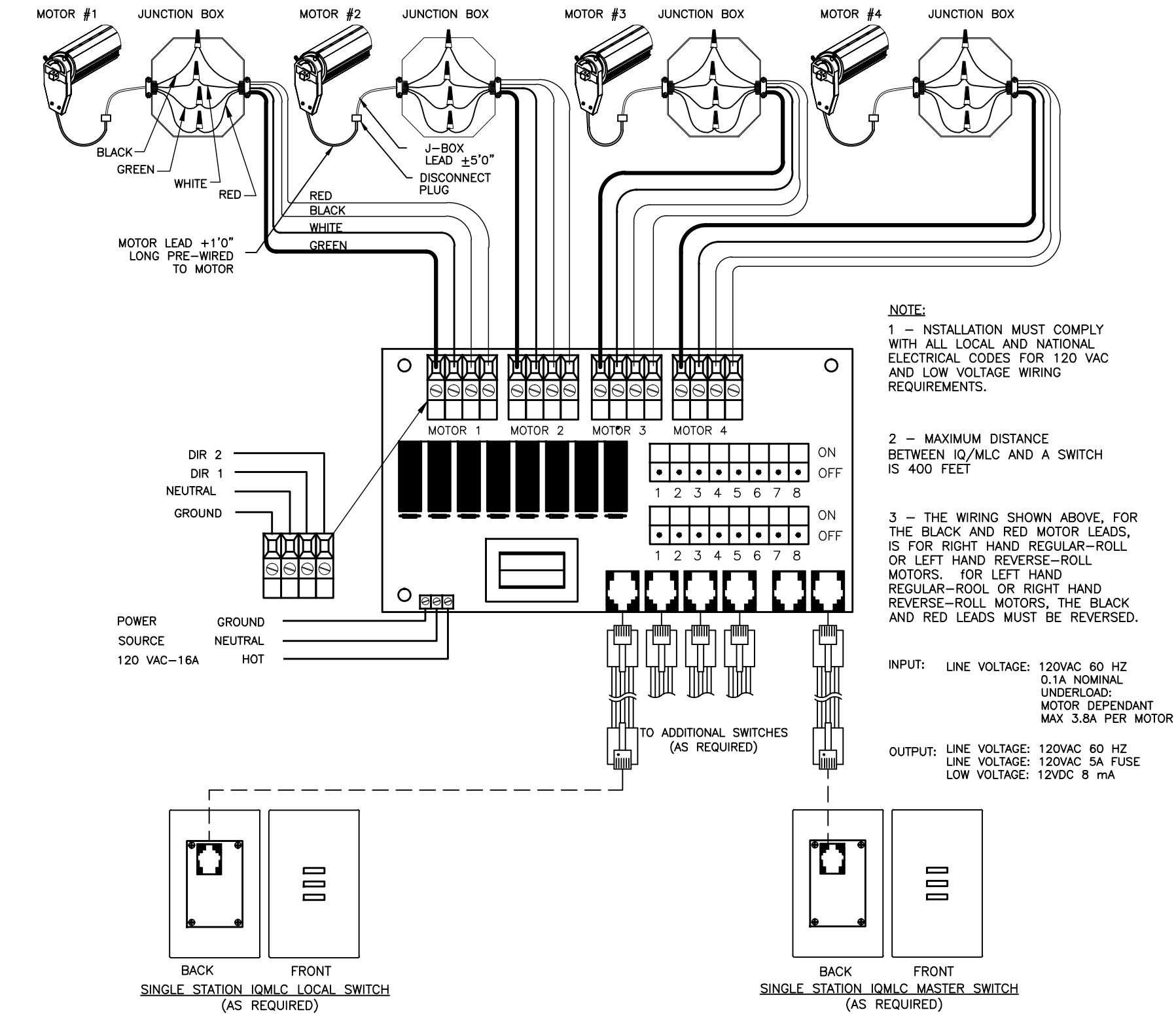
02/06/2008

NOTE:  
MAXIMUM WIRE RUN FROM FURTHEST IQ/MLC TO SWITCH MUST NOT EXCEED 400 FEET



## 10"x10"x4" SCREW COVER BOX

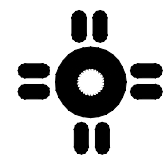
(USED FOR IQ/MLC)



## STANDARD WIRING DIAGRAM 1-4 MOTORS WITH IQ/MLC AND MULTIPLE SWITCHES

NOTES:  
SEE SHEET #1

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1	12/28/10	NO CHANGE	D.M.	
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REVISIONS				



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42-03 35th Street  
Long Island City, NY 11101  
Tel: 718-729-2020  
Fax: 718-729-2941

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OWNER	TEX CONSTRUCTION SPECIALTIES, INC				